

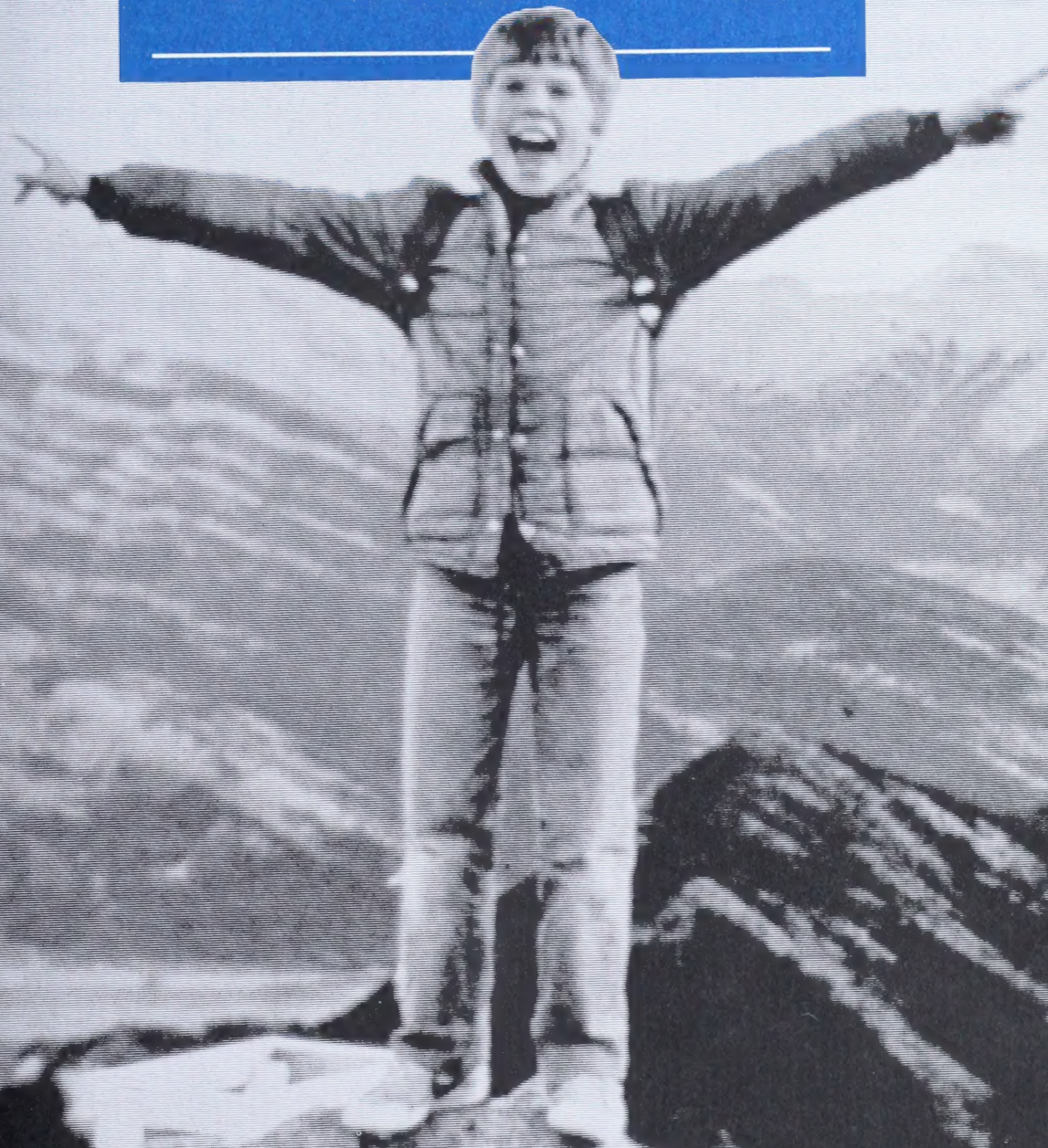
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ENVIRONMENT VIEWS

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Tomorrow's Environmentalists

ENVIRONMENT VIEWS

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and Outdoor Education Team

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CALGARY ENVIRONMENTAL AND OUTDOOR EDUCATION TEAM

Environment Views is published quarterly by Alberta Environment. Each issue deals with a specific topic from various viewpoints with the aim of increasing awareness of environmental issues among Albertans. *Environment Views* is directed by an independent board with representation from environmental groups, government and industry. The views expressed by the publication are not necessarily those of Alberta Environment.

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Alberta
ENVIRONMENT

Preparing Tomorrow's Environmentalists

There's a bumper sticker often seen on recreation vehicles driven by retired couples: "We're spending our children's inheritance." I don't know what it's supposed to mean, perhaps just a gleeful celebration of the fact that at last, the kids can look after themselves while the parents enjoy using some of their own hard-earned money. To me, though, it's always a chilling environmental message, a reminder that we're wasting the topsoil, polluting the rivers and killing off the forests that should be our children's inheritance.

Belatedly, it looks as though as a society we're taking the issue seriously and taking some action to protect what's left of this legacy. But this change won't be painless; it will take commitment from all of us, as consumers or investors or politicians. It will be a big job to turn the crisis around, and it will be an even bigger job to make sure the commitment is sustained for the decades to come.

In this issue of *Environ-*

ment Views we look at the Albertans who are responsible for this longer-term commitment: tomorrow's environmentalists. David Suzuki, in a recent radio series, said, "Our children will have to live less well than we have, with less comfort and less convenience. We need to prepare them to live in a world without cheap water and without cheap energy." And, he might have added, without the luxury of treating rivers as sewers and the air and land as cheap dumping grounds for our wastes.

"There has never been a bigger crisis, and we are the last generation that can pull us out of it. We have to act, it's a matter of survival."

In the global sense, Suzuki says, we have to "live within our means," a phrase that has a familiar ring to those of us who lived through the Depres-

sion, or had parents who did. But what about the post-credit-card generation? How can young people in affluent North America learn to live with a sustainable environment, when they have never known anything but continual growth of industry and population?

How are we helping them? Especially in the larger centres, there seems to be a lot of exciting work being done in environmental education, and we review some of it in this issue. It also appears that, although environmental education is part of the curriculum, the basics of ecology are not taught well, and young people are learning about environmental issues mostly through the media. We also talk to parents about the environmental education that takes place at home, where children learn to value nature

and can begin to take an active role as young conservationists.

On the Suzuki series, one economist urged: "Activism is the most important thing now. Write letters if you can, go to meetings, block bulldozers; do whatever you do best, but do something in the short time we have left. It's a cop-out to say it's too depressing or overwhelming. Our children will inherit what we leave."

You'll notice a lively letters section in this issue. Thank you to all of you who took time to write. If you have comments on preparing tomorrow's environmentalists or on any of the issues we have done recently (on personal action or on the proposed pulp mill development, for example) please let us hear from you.

Our next issue will review air pollution issues in Alberta, a year after the conclusion of the Acid Deposition Research Program.

The editor of *Environment Views*, Maryhelen Vicars is a freelance writer and editor based in Edmonton.



Endangered Spaces: Ten Years Left

Canadians have just 10 years to put the wheels in motion to protect rapidly diminishing parkland, says noted environmentalist Monte Hummel.

To get that message across, the longtime activist compiled a collection of essays and photographs from concerned colleagues. The result is *Endangered Spaces: The Future for Canada's Wilderness*. The book came onto the market in September and sends an impassioned plea to Canadians to conserve what remains of the nation's wilderness before it's too late.

Hummel visited Edmonton in late September as part of a national tour to promote the message behind the book.

"We're at a critical point in our development now," Hummel said. "We can make a decision to protect representative wilderness areas right across Canada—while we still have them to protect."

The goal is to protect at least 12 per cent of Canada in a wild state, says Hummel, who is president of World Wildlife Fund Canada.

(Hummel is also a co-founder of Pollution Probe and Energy Probe, the former director of The Canadian Coalition on Acid Rain, and a founding member of The National Heritage League.)

The target date is the year 2000. In the Canadian Wilderness Charter signed by the book's contributors, governments, industries, environmental groups and individual Canadians are urged to work at establishing at least one representative protected area

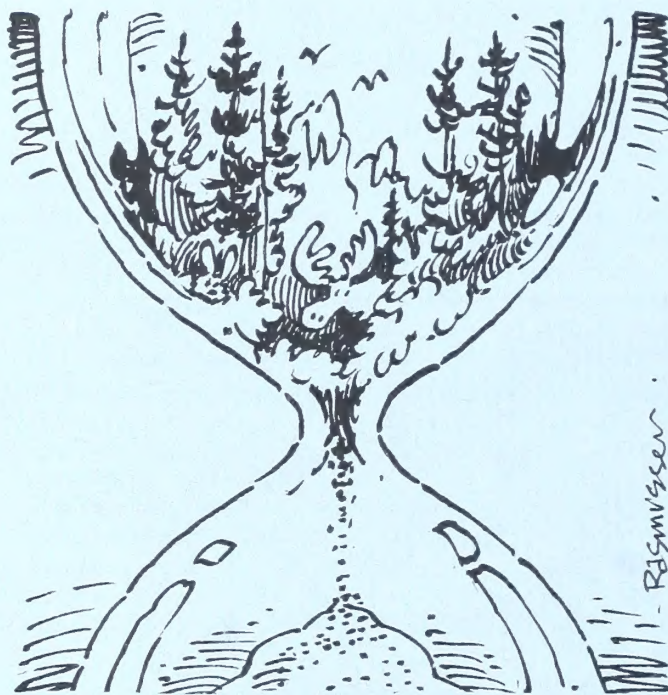
in each of the country's natural regions by this time.

Key Porter Books and the World Wildlife Fund produced the 300-page book, which combines essays by 21 well-known conservation experts with the work of 40 nature photographers from across North America.

Endangered Spaces begins with Hummel's tribute to

asks in ending his introduction.

Between Hummel's acknowledgments and introduction, there is a foreword by HRH The Duke of Edinburgh, who has lent his name and time to environmental causes around the world. His short but forceful message outlines the task involved in conserving wilderness areas, and the



Douglas H. Pimlott, who died in 1978, leaving Hummel and Bruce Littelljohn with a rough manuscript called Canada's Wild Places.

"Doug's book" went on hold for 10 years, Hummel explains, until Glen Davis, a conservation philanthropist, independently proposed a similar idea.

The book is dedicated to Pimlott. In a further introduction, Hummel, who was general editor of *Endangered Spaces*, urges readers to think about the importance of wilderness areas and the implications of a Canada with none.

"How important is it to you that wilderness plays a role in the future of our country?" he

importance of acting soon.

From there, *Endangered Spaces* is divided into four parts. In Learning from the Past, Littelljohn writes on Wilderness and the Canadian Psyche, Yorke Edwards on Wilderness Parks: A Concept with Conflicts and Harold Eidsvik on Canada in a Global Context.

Included among the six essays in Part Two—Current Issues and Perspectives, are Political Realities by Elizabeth May, A Native Viewpoint by Georges Erasmus and Private Stewardship by Stewart Hilts.

Contributions from seven writers detail the status quo, region by region, across the country, in Part Three—The State of Wilderness Across

Canada Today. And in Part Four, four writers, including editor Hummel, propose Strategies for the Future.

The message doesn't end there. The Canadian Wilderness Charter, How You Can Help, a list of conservation organizations and another list—Conservation Lands and Waters in Canada—along with author biographies, takes up the book's final pages.

The book's photographs make as compelling a statement as any of the written passages. A two-page spread of a graceful black-tailed deer feeding along the Bedwell River of Clayoquot Sound, "slated for clear-cut logging in B.C.," is an example of one attractive and persuasive picture.

There's a beautiful view of Temagami, the "deep water country" of Ontario. The scene of recent anti-logging protests, Temagami is listed internationally as a threatened area.

In another simple but forceful photograph, a conifer seedling growing out of a gnarled, mossy tree stump shows how "one generation provides nourishment for the next."

There are shots of Beluga whales and the endangered sea otter. The caption beside a picture of a tundra wolf reminds readers that "Canada has the largest remaining population of wolves in the world."

The message Hummel is promoting is clear on every page of *Endangered Spaces*. The World Wildlife Fund is donating all profits from sales of the book, which retails at \$39.95 (hardcover), to the Canadian Parks and Wilderness Society, a non-profit organization devoted to protection of national and provincial parks.

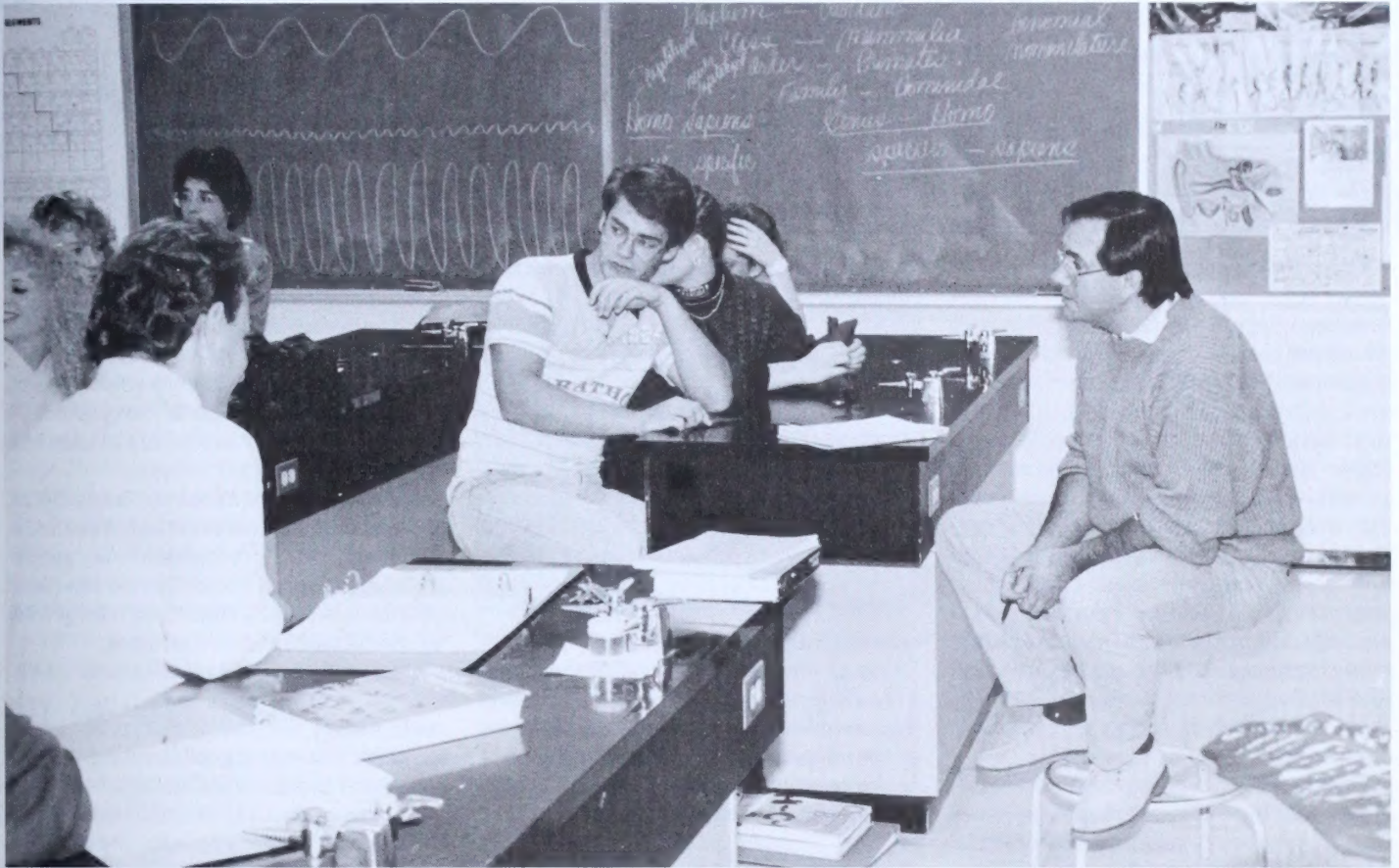
Around the Province
continues on page 29

Eric Bailey

LISTENING TO KIDS

Talk About The Environment

Alberta high school students speak out about their future



Eric Bailey (right) spoke with students in Athabasca (above and next three pages), Red Deer and in Rimbey to get their views and concerns about the state of the environment.

This story is about exposure. What people think and how they feel depends on what they know and what they've experienced. This holds as true for three groups of high school biology students in Alberta as for anyone else.

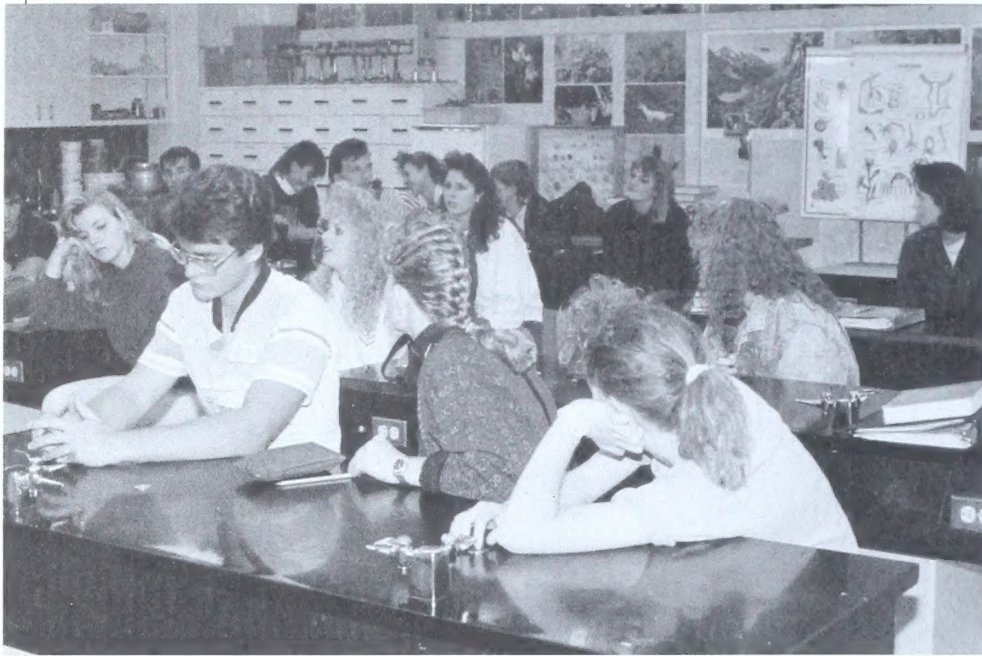
I went to Camille J. Larouge Collegiate in Red Deer to talk to Rene van Hyfte's Biology 20 class, to Rimbey Junior Senior High School to talk to Robert Johncox's Biology 20 class and to Edwin Parr Community School in Athabasca to talk to Elwin Blosser's Biology 30 students. I wanted to get their views about the environment—the state

of the environment, their concerns about it, their fears, their hopes. I also wanted to find out how much they knew about environmental issues globally and in Alberta.

Whether the thoughts of 75 Alberta high school students would differ from the thoughts of other Albertans on the subject of the environment, I had no idea. Somehow I expected the discussions we would have might help clarify my own thinking about the state of the environment and unveil a point of view I hadn't witnessed before. What stood out on the hours of tape and pages of notes I brought back from Red Deer, Rimbey and Athabasca was how much

that point of view depended on the exposure these young people had had to issues and information. I learned that not much ecology is taught in the Alberta school system. As a subject, it is introduced in Biology 20, generally at the Grade 11 level and then only to students who take biology. Very little of the rest of the high school curriculum is related to environmental issues.

Nearly all the students said the mass media are their major source of information about environmental issues and the medium they gained most environmental information from is television.



The environmental issues they are most concerned about are those they have no first-hand experience of: the depletion of the ozone layer, clearing of tropical rainforests, acid rain and global warming. The most commonly discussed Alberta issues were toxic waste disposal and pulp mills. How students ranked the importance of provincial issues had a lot to do with where they lived and what environmental problem stalked the home front. In Athabasca, pulp mills dominated the discussion. In Rimbey, surrounded by natural gas processing plants and where an oil and gas depot recently burned, toxic waste and air pollution headed the list. Soil erosion got some attention in Red Deer, the hub of central Alberta's agricultural activity.

They have also been exposed to the cynicism about big business and politics common in our society and they had no difficulty laying the blame for environmental woes at the doorstep of seekers of profit and political power.

Whether these views are unique to modern youth in Alberta or also reflect the views and values of their parents, there lay at the core of all our talks a disturbing pessimism about the willingness of our society to correct environmental problems before they threaten human health absolutely and their own powerlessness to take effective action themselves. Few claimed to be taking personal steps to conserve the environment except for participating in school recycling programs and only one or two students in each class said they would be pursuing careers in an environmentally related field or planned to become active in environmental issues

Nearly all students said the mass media, especially television, are their major source of information about the environment.

outside their future workplace.

Our discussions ranged widely and not everything we talked about can be easily pigeon-holed. However, here are the views of the more vocal of the young people I spoke to mustered under some headings that show their areas of major concern.

Who's Worried Now?

"You walk outside and sniff the air and it smells okay and the trees are all still there—they're not melting and dripping into puddles or anything," said Brett Manyuk in Red Deer. "The problems seem so far away, what do we have here locally to worry about? I mean, aside from the atmosphere, you really don't get the feeling these things affect you personally."

Would it be accurate to say young people are worried about the state of the environment or do older people worry about it more? In Athabasca and Red Deer, they said young people are definitely as concerned about the environment as older ones—but that they don't worry about it as much. There was the suggestion that adults tend to worry more about everything, though. In

Red Deer they said young people should care more about the environment than adults do because they're the ones who are going to have to live with it.

Cody McBride in Rimbey said: "We're worried but not as much as our grandchildren will be." And one of his classmates observed: "Yeah, they're toast."

There was doubt about the intensity of concern about the environment in our society generally. "I don't think too many people are really worried about the environment until there's actually something wrong with it," said Kim Murch in Red Deer.

Most students felt improvements in the way we treat the environment have been made mainly because of threats to public health. A first-rate argument on the subject developed in Athabasca, though.

"Health is basically the only issue there is," said Calvin Onyszchuk. "People just don't want to die."

Paygh Hutchinson maintained, "There is



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a majority who are concerned about the environment for its own sake and who would like their grandchildren and their children after them see it exactly the way they did."

But Jodie Jared voiced the popular view that the majority of people are just concerned about their health and only when their health is involved do they begin to worry about the environment. This, according to classmate Nadine Miller, will prove the salvation of the environment because in response to concerns about public health, solutions will be found for such problems as waste disposal and environmentally unfriendly consumer products.

Individual Responsibility

In Athabasca, some students felt that since the ozone scare began, Canadians at least have been trying to help conserve natural environments by using more benign household products. A quarter of the class said the contents of their shopping bags had changed

markedly in that direction over the last couple of years.

"There should be more emphasis on the individual person rather than on what big factories are doing," said Trevor Gilchrist in Red Deer but there was considerable skepticism about how effective individual action could be. One of his own classmates felt people in Red Deer who were at first enthusiastic about recycling programs had grown lazy with time, causing the programs to falter.

The cost of programs was also cited as a deterrent to individual action. "Prices for environmentally safe products go up," Shawn Ergang said in Athabasca. "No one walks around the store for two hours reading labels to see what's safe—they buy whatever is cheapest."

"The other thing is, chaining yourself to trees to prevent logging may not really be where it's at," said Brett. "I mean, perhaps we're doing things wrong. You have to hit people where it counts, with money, that's what it all operates around. Just take a big corporation that's throwing out pollution by the thousands of tonnes a day. If you just go slap them on the wrist and say: 'We don't want you to do this any more,' they'll go: 'Well, all right,' and they'll just go ahead and do it anyway. But if you make it so no one will buy the product they're producing because they're polluting so much, they go: 'Well, we're losing money so we've got to change.' I mean you've got to do it the right way."

Big Business

The corporate world scored very few environmental brownie points among the stu-

dents. Rightly or wrongly, most of them laid the blame for many of our current environmental ills at the door of large corporations here and abroad. This was the area in which the greatest cynicism about man's ability to turn environmental problems around was shown. Moreover, young people seemed frustrated about what they clearly felt to be their lack of influence with the business world.

It was predictable that this feeling would be strongest in Athabasca where many of the students felt much of the information made available to the town to date about the future development of a pulp mill there was overly positive and had been supplied by the company backing the mill.

Jill is convinced portions of the Athabasca River are already so polluted that her younger sister developed a rash while swimming in it. But Nadine says "there must be alternative ways for big business to do their thing. Like they don't have to put so much pollution into our water and air. There are so many ways not to but they don't do it because it will cost them a little extra."

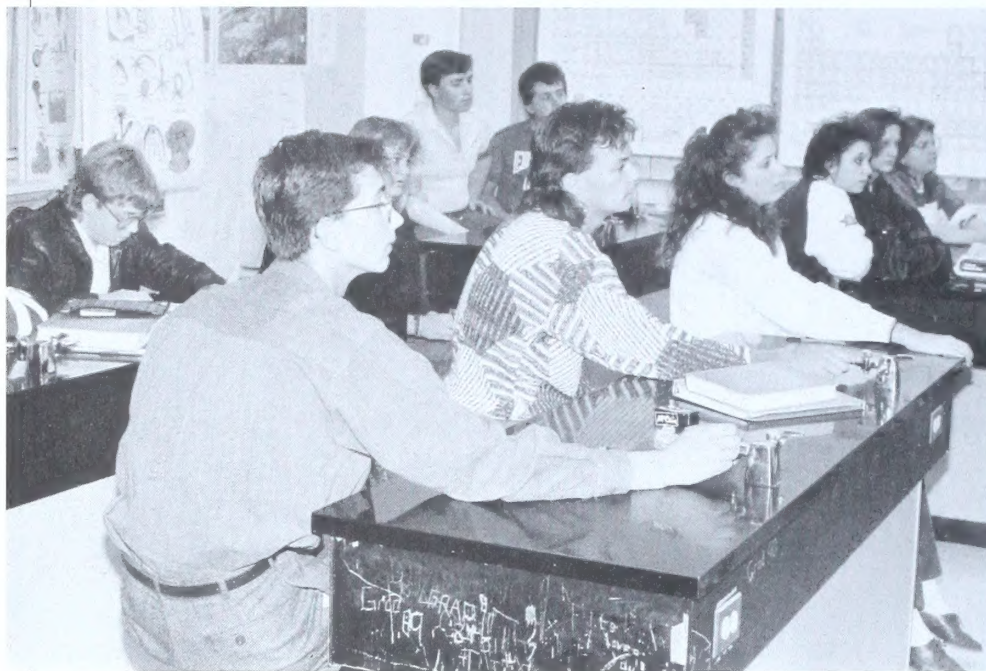
"And when it costs them a little extra, we're the ones who'll be paying it," observes Calvin.

"But how can you put a monetary value on our environment, Calvin?" asks Paygh.

"Oh, like Paygh is saying throw away all your material wealth and all your corporations just for the environment. You can't do that," Calvin says.

"Everybody's going to leave here after listening to all this and they're going to think they're all so concerned about the environment," Shawn says. "But if you walk out the door and somebody says, 'I'm





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going to give you a \$60,000 a year job to work at the pulp mill pumping stuff into the river,' they're going to go, 'Yeah, okay, I'll take it.'"

"Well, why not?" Warren Griffin asks. "The best you can do here now is about 15 grand a year. But if you go to university for four years and get a chemical engineering degree, you could work here at that pulp mill and just push a few buttons for eight hours a day and make 40 grand as a beginner. It's economics."

The Mass Media

They all agree, this is where they get most of their information about environmental issues—where they learned about the ozone layer, forestry development in northern Alberta and the controversy surrounding the Oldman Dam.

They also agreed that environmental reporting is generally good from their point of view although they say it only follows sensational environmental topics and sometimes shows a lack of understanding of the science involved in many stories.

Jill said, "It makes a big difference if you've studied ecology in school to understand the environment reasonably well."

All the students in Athabasca said the local newspaper, the *Advocate*, suddenly became environmentally aware when news of forest industry development in the area first broke. Now, they say, environmental issues find their way onto the front page every week.

Students were concerned about how much attention people pay to environmental stories even though they felt highly interested in such stories themselves.

The students laid the blame for many of our current environmental ills at the door of large corporations here and abroad.

"If there's a headline that says we're going to run out of oxygen in six years, everyone says 'What?', grabs a paper and starts reading it. If you throw a little article in about a small species of ground cover dying in southern Alberta everyone will pass it by," said Brett.

Shawn says he doesn't think there are always two sides to environmental stories. "If a story is about something like the pulp mill, you're going to hear the side of business first and then you're going to hear the side of the environment later. But when you hear something about the ozone layer, it's just the facts, not two sides trying to tear each other apart."

Most felt environmental success stories and stories about what people can do to be more environmentally friendly at work and at home should be run in the mass media.

They feel more information has to come from schools and environmental organizations. They also felt the provincial and federal governments had high credibility

when they released information about products and standards but lower credibility on matters of policy and government activities such as industrial development. As a result, they felt the government should take a role in getting more consumer information related to environmental issues out to the public.

Government and Politicians

Ambivalence about government—the bureaucracy involved in environmental issues and their political masters—came out clearly in all the interviews. Most students felt there was a strong need for higher government standards relating to environmental quality and more regulation to ensure compliance.

"Government's main objective should be to find alternatives for people," says Kyle Makofka in Rimbey. "You can't stop doing something unless you have an alternative to fall back on. A farmer, for example, won't put himself at a disadvantage to save the environment."

All the students felt the minister of the environment should have a better grounding in ecology than other members of cabinet even before being appointed to the position. Some students pointed out that environmental issues in Alberta always have two sides and that the environment itself is always one of them. They feel the environment shouldn't be put in the position of losing a battle because it constitutes the weaker side of a political argument and the minister of the environment should always take the side of the environment in cabinet discussions.

"What really angers me is that politicians are using the environment to get elected and then they do nothing about it," Paygh says.

Shawn Newberry in Athabasca says politicians don't know what students think about the environment. "I'd like to have them come to our class like you did and talk to us straight out with a straight face without someone behind them telling them what to say."

It's a sentiment often publicly expressed by government officers whether elected or hired that portions of our natural heritage should be preserved for the benefit of future generations. Rarely, though, do officials consult with those generations about how they might like that process to take place. We hold the world in trust for our children but as these young people have shown, that trust is by no means blind.

Eric Bailey is a freelance writer specializing in outdoor and interpretive writing, working from Lacombe.

Polling Young People

Those of you who read the *Edmonton Journal* and the *Calgary Herald* will remember the special report on the environment that appeared in October 1989. As part of this report, Southam, which publishes both of those newspapers and others across Canada, commissioned the Angus Reid Group to poll the environmental attitudes of Canadian adults and young people.

Angus Reid surveyed 1,659 Grade 8 students in 54 classrooms across Canada in June 1989 with the following results.

Environmental Priority List

The top five environmental threats the students identified were:

1. damage to the ozone layer
2. pollution generally
3. air pollution
4. water pollution
5. acid rain

Expectations for the Future

Eighty-four per cent of all students polled say they are really worried about what the state of the environment means for their future. Most believe that we are in serious danger of destroying the environment (82 per cent) and that the damage done will not be easy to fix (76 per cent).

Most students feel that the environment will be worse by the year 2000 (46 per cent), rather than better or the same. Students in the western provinces are the most pessimistic—half feel the environment will be worse.

The 30-year outlook is slightly better, in the students' opinion. Thirty-six per cent think the environment will improve by the year 2020, but 34 per cent think it will be worse. Again, students on the Prairies and in B.C. are the most pessimistic.

Sixty-eight per cent of the students believe that future lifestyles will be restricted by environmental problems. Most students believe that environmental damage will make some things we do today impossible.

- Fish from nearby lakes will be inedible (82 per cent).
- Swimming in nearby lakes will be too dangerous (79 per cent).
- Suntanning will be too dangerous (65 per cent).
- Tap water will not be safe to drink (65 per cent).
- Disposable diapers will have to be banned (52 per cent).
- Product packaging will have to be reduced (52 per cent).

A majority of students (52 per cent) feel that they will still drive cars in the next 10 to 15 years, although 46 per cent think personal vehicles will have to be restricted.

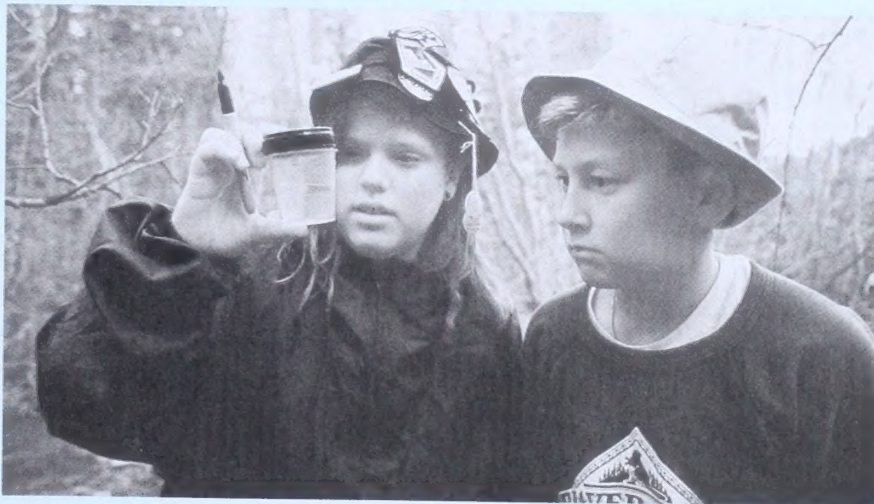
Fifty-eight per cent of students say their generation will be more careful with the environment than previous gen-

say they never separate garbage for recycling. Fifty-one per cent say they sometimes make trips without the car.

The poll also questioned what action students are willing to take. Students say they are willing:

- to share environmental information with their family (74 per cent).
- to walk or bike instead of taking a car (70 per cent).
- to pay more for environmentally safe products (68 per cent).
- to not litter (64 per cent—a surprising 32 per cent said they were not willing to do this).
- to avoid bags for small purchases (62 per cent).

The students were divided on their willingness to separate family garbage for recycling and reuse their lunch bags.



CALGARY ENVIRONMENTAL AND OUTDOOR EDUCATION TEAM

erations. A large block however—39 per cent—say their generation will not. Many students blame earlier generations for polluting the environment (41 per cent), although most do not (53 per cent). They think older generations should not expect them to save the environment (63 per cent).

Environmental Action

The poll surveyed environmentally friendly actions that students and their families are taking now. Of six choices, the most popular action is to send things to charity rather than throwing them away (45 per cent). Almost half the students (49 per cent) say they never recycle newspapers (only 10 per cent of students on the Prairies say their families do this). Forty-four per cent say they sometimes avoid aerosols. Forty-five per cent say they sometimes turn down the heat in their homes. Sixty-four per cent

They were not enthusiastic about volunteering one Saturday a month to a clean-up project.

Many students feel that the environment will have to become a bigger problem before enough action will be taken to improve it (58 per cent). A slim majority believes that changes in behavior, rather than technology, are the key to a better environment (54 per cent), and most say they feel responsible for taking action even if their peers do not (65 per cent). They also feel, however, that they and their families are not doing enough to protect the environment (66 per cent) and most feel guilty sometimes about the affect their actions have on the environment (74 per cent). Most students believe that environmental problems will not be solved unless individuals take action (80 per cent), but are split on the issue of whether individuals can make an impact on environmental problems.

Forty-seven per cent said that individuals could have an impact, while 49 per cent disagreed.

Information Sources

The students' biggest sources of information on the environment are the television (80 per cent), newspaper (71 per cent) and school (54 per cent).

Students see scientists and professors as the most credible sources (74 per cent), followed by environmental organizations (68 per cent), TV news (65 per cent), parents (55 per cent) and newspapers (50 per cent). Students ranked information from business executives as the least credible source of environmental information (63 per cent).

Most students believe that environmental problems are not being overblown (80 per cent).

Industry Environmental Image

Students rank newspapers and electricity companies as the most environmentally careful industries. They are split on the environmental image of the forestry, pulp and paper, steel and mining industries. They give the poorest environmental rating to the nuclear, petroleum, auto and chemical industries.

Environment IQ

Canadian students may be concerned about their planet, but their knowledge is lacking on the facts about threats to the environment.

The children scored an average of 4.2 of 12 questions correctly on a quiz about major environmental issues. The test was included in the Angus Reid poll and was answered by 1,659 Grade 8 students.

The children scored highest on a question about forestry. Three-quarters knew there are fewer trees in Canada today than 20 years ago.

Some 62 per cent of the youngsters knew the amount of farmland worldwide is decreasing.

But from there, the percentages plummet—even on issues discussed extensively in the media. Only 48 per cent could pinpoint CFCs/coolants and chemicals as the culprits behind the earth's decreasing ozone layer.

A low, low 13 per cent pegged acid rain as the biggest reason for fish dying unnaturally (other than fishing) in Canadian lakes.

Asked which of the following three

animal species—baboon, rhinoceros or zebra—is most in danger of extinction, only 32 per cent correctly answered rhinoceros.

The toughest question for the children was identifying the country with the highest rate of population growth. Only seven per cent correctly chose India.

A meagre 28 per cent knew the world's population is expected to increase by a billion within 10 years, and only 30 per cent answered correctly that people live longer than their great-grandparents.

Other questions revealed:

- 41 per cent knew hardly any of the food they eat is produced naturally;
- 46 per cent knew their families are using more energy than they did about eight years ago; and
- 24 per cent knew 15 kg and more of new garbage is discarded by each Canadian every week.

Environment Views Poll

We presented the students interviewed in Eric Bailey's story with a questionnaire on environmental attitudes and knowledge in September and October, at the same time as he was interviewing them. Seventy-one students filled it out. Most are 16 years of age, and all are between the ages of 15 and 17. The students were fairly evenly split between sexes and among the three schools in Athabasca, Red Deer and Rimbey.

Environmental Priority List

The students had a similar list to the Grade 8 students in the Angus Reid poll.

1. damage to the ozone layer
2. pollution, including air and water pollution
3. acid rain

Other concerns were hunting, deforestation, toxics, greenhouse effect, species extinctions and soil erosion.

Environmental Action

Most students say they are very concerned or quite concerned about the environment (62 per cent), but 37 per cent say they are only a little concerned or not at all.

They are generally more optimistic about our chances of solving environmental problems than the younger students in the Angus Reid poll. Twenty-eight per cent think we have a good chance of solving them and 43 per cent a fair chance. Similarly, they are more optimistic about having a personal im-

pact on solving environmental problems. Twenty-five per cent think they have a good chance of making an impact and 44 per cent a fair chance. Perhaps it is a measure of apathy that students who are least concerned about environmental problems are most pessimistic about our chances of solving them.

Picking up garbage, especially in organized groups, is by far the most popular environmentally friendly action among the students. Avoiding aerosols and planting trees are next. A few students say they recycle garbage but only one said he made less use of his car.

Of four environmentally damaging products—styrofoam cups (CFCs), fast-food hamburgers (tropical deforestation), cars (carbon monoxide and other air pollutants), and white paper (dioxins)—students consistently say they are willing to give up styrofoam cups and hamburgers. Very few are willing to forego white paper and none are willing to give up cars.

Knowledge

Students from Athabasca, probably because of the controversy about the Alberta Pacific pulp mill project proposed for their community, are far better informed about environmental issues than their peers in Red Deer or Rimbey. Overall, the students surveyed are poor to moderately well informed.

- Almost half (42 per cent) cannot name one endangered wildlife species in Alberta.
- Half (51 per cent) know that CFCs harm the ozone layer.
- Most (82 per cent) know that Alberta has a treatment plant for hazardous wastes.
- Most (72 per cent) cannot name Alberta's Minister of the Environment.
- Half (52 per cent) know of at least one non-government environmental group. Greenpeace topped the list (70 per cent).
- Half (50 per cent) know that dioxins are a contaminant linked to pulp mills.

By their own evaluation, 49 per cent of students feel they know a little about environmental problems. Twenty-eight per cent feel they know a lot and 23 per cent feel they know very little or nothing.

Lynn Zwicky and Cathie Bartlett

TOMORROW'S WORLD:

The Leaders Respond

Business, government, schools and the media can do a better job, leaders agree.



CALGARY ENVIRONMENTAL AND OUTDOOR EDUCATION TEAM

We asked some Alberta leaders in the media, business, government and education to review what the kids have been saying (as reported in the previous story) to our writer visiting high school classrooms, and in the Angus Reid poll of Grade 8 students across the country.

Ralph Klein,
Alberta's Minister of the Environment

The concerns of Alberta youth regarding the environment echo the concerns of Albertans of all ages.

As might be expected however, there is a more honest, and less cynical theme to their comments that should be heard by both government and industry. It is not often that we are afforded the opportunity to listen to the views of an entire constituency that has

"More effort should be put into ensuring environmental education is taught effectively."

— Linda Hughes

no political agenda.

I was amazed to learn that the most serious environmental threat to the planet, in the opinion of the students, was the damage to the ozone layer.

While we consume ourselves with the

more tangible questions of pulp mill effluent, political positioning and jurisdictional questions, the youth of Alberta have grasped a real environmental issue that poses a clear and present danger to mankind.

Given the propensity of the students to focus on specific environmental dangers, as opposed to the politics of the environment, it is not surprising to note that the youth of Alberta are largely pessimistic about the state of environmental protection over the next 10 years.

It is not a very complimentary reflection on government or industry that the youth of Alberta feel that the environment will get worse before it gets better. Clearly they feel that the private sector is not doing enough to make their respective industries safe, and that government is not doing enough in its role as environmental "police". While we



Ralph Klein

may argue that given the new environmental realities, this perception is not true, the fact of the matter is that the youth of Alberta are indeed worried about the future. This poses a unique challenge to government and the private sector. The students of today are the decision makers of tomorrow.

If those future decision makers do not believe that the previous generation did enough to protect the environment, then they will arrive at that age of consent determined to take more aggressive action on the environment. That attitude will have a dramatic effect on how industry conducts itself in the future, and will of course have an effect on politicians who are faced with a new generation of voters not satisfied with what has happened in the past.

For all that, the attitude of the students and youth of Alberta is both healthy and encouraging.

If the environment is to be saved, it will require more than government action; it will require more than special interest and environmental groups; and it will require more than an environmentally aware business community.

It will require an entire generation that has grown up thinking and learning about the environment, and not trying to come to grips with it at middle age.

Given the attitudes and opinions recently expressed by the students and youth of Alberta, it appears that that generation is about to arrive.

Ralph Klein, the former mayor of Calgary, was elected and appointed Environment Minister in 1988.

**Linda Hughes,
Editor, the Edmonton Journal**

The pessimism of these children is profoundly disturbing. There's no hope expressed here, no spirit, no idealism. There isn't even much anger. These children see a gloomy future for the environment and they obviously feel powerless to change it.

This sense of hopelessness is particularly unsettling for someone who grew up in the 1960s when young people thought they could change the world. They may have been naive and misguided and certainly they weren't very successful but they had a passionate belief that they could, and should, take action to try to change society. They talked about "people power" and "flower power". The children in these interviews talk, instead, about their powerlessness.

As a newspaper editor, I was equally disturbed to discover these children look to the mass media to learn about the environment. Newspapers are starting to do a much better job covering environmental issues (the *Edmonton Journal* has a full-time environment reporter and carries a special page on the environment each week) but their role is to provide news not basic training in a complex field of study.

And television, which these children apparently rely on most heavily, is a much more superficial source of news. The average news item on television contains much less information and explanation than the average newspaper story. Television can have great visual impact and that may be a strength in environment reporting. The sight of a polluted river may prompt more response from young television viewers than a newspaper feature story about the river. But clearly, if these children are to feel more empowered they must be more informed and that means much more basic education.

It seems unbelievable that students say they learn very little about the environment at school. Many of us have assumed, and taken some comfort in the notion, that our children will be well informed about the environment because it is such a pressing issue. But these interviews suggest the schools have not responded as quickly as we might expect. Environmental education is in the core curriculum as part of the science program, I understand. More effort should be put into ensuring it is taught effectively.

As an editor, I was also interested that at least one student suggested the media now give better play to the "business" side of en-

vironmental stories. The criticism I hear most often lately is the opposite, that we tend to be alarmist and we publicize the views of environmentalists without giving equal time to the response of business and government. This isn't to suggest the students' criticisms may not be equally valid but only that their voices are probably not

*"Perhaps we need an
Environment Measures
Act to enable us to leave
a decent legacy for
younger Canadians."*

- Dr. Tom Beck

heard as often as those who carry more clout in society.

The message these students are sending to the media is very clear. While schools and governments need to take a far more active role in environmental education, media still have a tremendous responsibility in this area. We must continue to expand our reporting of environmental issues. We must not only report the news but also provide analysis and background so that we can educate as well as inform the public. We need to always be scrupulously fair and balanced in our reporting so that people will believe they have credible sources of information which they can rely on. Only by being balanced and responsible can we ensure that we provoke rational and sen-



Linda Hughes

sible debate in the community.

The media must provide useful information that will make people feel that as individuals they can make a difference and can help bring about change. And finally, we need to publicize the good news; the environmental success stories that will help fight the sense of hopelessness that these young people express. We can help educate and empower them to work toward a more positive future.

Linda Hughes, as editor of the Edmonton Journal, is responsible for the editorial direction of the paper.

**Dr. Tom Beck,
environmental consultant**

In both the article by Eric Bailey and the Angus Reid poll of we see evidence that Canadian youth receive very little formal training in ecology, yet they have an impressive awareness of environmental issues. Their knowledge comes from television rather than textbooks, but it nevertheless has prompted serious reflection by the students on our common future. As has been the case over the past two decades in my experience, outstanding students are showing clear signs of constructive environmental concern, leadership and determination. While these young activists are not perhaps in the majority, they are making their mark in the same way relatively few people within the older generations of Canadians have brought environmental issues to centre stage. By combining the voices of young activists with those of their elders, students are giving a message that crosses generations—it's time for stronger preventive measures, better environmental legislation and tougher enforcement proce-

dures with which to prosecute offenders.

The role of the media in creating awareness and holding the interest of students is noteworthy. This, too, is a continuation of my experience over the past two decades with my own children. It also suggests that our school system needs to greatly improve the environmental content of the core curriculum. It seems to me that educators in the 1960s and 1970s played a driving force in creating environmental awareness; are they not doing so now? To me, this seems unlikely.

It is heartwarming to see the degree to which today's students understand that business must fit into the environment, and not the other way around. They are only too conscious of the fact that today's polluting industries are detracting from tomorrow's economy. We surely have no more right to saddle future generations with a massive environmental deficit than we do to leave them with a huge fiscal deficit. And reading these youthful statements of concern leaves me more certain than ever that we must do everything within our power to diminish both.

I hope that the sensitive segment of the private sector will note carefully the views of this generation of young consumers. While they are not yet at the peak of their purchasing powers, they soon will be, and there is considerable evidence that they will be "green consumers". Today's business should now be planning for tomorrow's consumers, and the evidence before us suggests that, increasingly, environmentally damaging or suspect products will be found unacceptable.

On the topic of environmental leadership, the young are seeking environment ministers who will serve first as advocates for the environment. The implication is that they do not believe this is presently the case. As in war, youth contribute least to the causal factors, yet finally pay the biggest price. Perhaps we need an Environment Measures Act to fully utilize the resources available to be able to leave a decent legacy for younger Canadians!

I conclude these comments by noting that the students interviewed were predominantly middle class and non-native. In future studies, native students should be deliberately involved. My own recent experience is that young native people in the Mackenzie Delta have a heightened sense of environmental issues far beyond their immediate borders. Their deep concern over the proposed Alberta pulp mills and their potential downstream effects is but one

Dr. Tom Beck



Art Price

example of their profound concern.

Congratulations to *Environment Views* for reaching out to the younger generation—always a worthwhile and interesting endeavor!

Tom Beck, a Calgary conservationist, was one of the earliest environment specialists in the Alberta oil industry. He was a founder of the Alberta Wilderness Association, governor of the Arctic Institute and a past chairman of the Canadian Environmental Advisory Council.

**Art Price,
President, Husky Oil**

I believe the free market system can add responsible environmental success to its obvious economic success credentials, if the customer, business and shareholder can all line up on the same side of the issue.

Our system of democracy, combined with individual freedoms and free enterprise, is maturing and becoming aware of changing values. It has gone through a wave of productivity, efficiency and consumerism. The values of free, industrial, relatively wealthy societies are moving (so far marginally and maybe mostly philosophically) away from low-cost/short-term material consumption toward longevity and quality. The democratic free enterprise system is just starting to react to this value shift.

There are three major components to this enviable system: business, government and the individual.

Business responds to government, by operating within the law and meeting specific standards of conduct; and caters to the

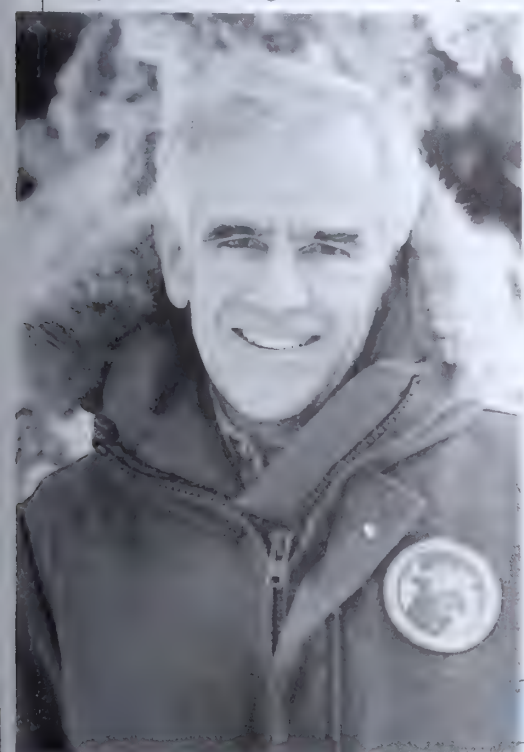


Photo by CA GARY

customer and the investor, both of whom are ultimately individuals.

Any business that loses sight of the demands of either is soon history.

Governments have been called on to intervene on the side of balancing what would otherwise be a very harsh economic system to set rules for social conduct and to redistribute to some degree the wealth generated by a winning system.

Governments have their discipline, too, catering to their "customers", the voters. If they lose sight of the voters' interests, the government is history.

So our system is built on serving the individual, through competition, and it is good at it. If enough individuals exhibit certain values toward business, business will change to pursue these values. The same goes for governments.

The interesting dimension that confuses the system somewhat is that individuals will express one set of values to government and another to business. For example, two products are available to the customer. One is produced or consumed in an environmentally sensitive manner; the other in a relatively environmentally compromising manner. If the environmentally compromising product is less costly or more convenient, a large proportion of customers will choose it, while still voting for more environmental discipline by their government.

An example in our business is compressed natural gas as an automobile fuel. Husky was the first company to install CNG in Canada. We did it in late 1983 in anticipation of a customer and government policy base that preferred the clean-burning character of natural gas, compared to gasoline or diesel.

Its price to customers (after government excise tax relief and the net cost of conversion) is about the same as the price of gasoline, but it is less convenient. The customer base today is still very small. I am not saying we individuals are hypocritical, just that often that is the net effect of our actions.

Historically, our system has searched out the best cost, most productive answers and environmental effects have been considered through regulations set in a "pro-economic development" mode.

As environmental values are raised relative to values historically tilted more toward simple economic growth, one has to question whether the regulatory format as we have known it is the answer. The ability to optimize is severely limited because that would take a situation-by-situation review and regulatory discretion that would not fit the free market competitive system. As

well, it often delinks environmental issues from the number one success test of business—its customer base. In an effort to begin to deal with optimization, regulations take on old/new, big/small and rural/urban characteristics; hardly dealing with the issue directly.

Our free market democratic system would be the most efficient vehicle to deliver environmental responsibility if environmental impacts were included in this competitive system in a positive manner.

Our system would react quickly if environmental responsibility cost less to the customer and potentially yielded more profit to the stockholder. This is not that hard to achieve. For example, base threshold regulations plus a volumetric tax on emissions,

"The key to success is a more broadly based ecological education, where students are not only taught the dangers of overexploiting the environment, but also to feel as though they are a part of it."

— Dr. David Schindler

effluents and waste at both production and consumption levels would have this effect. Our system is going to move in this direction if environmental values continue to gain status.

All signs indicate that we are going to move down this path, led by the growing concern of individuals. Governments are moving on regulations (so far in a cumbersome way) around the margins of the issues, while individuals are exerting their own customer influence from time to time, although they still don't realize how powerful their influence can be. Some in business are looking for ways to do better without totally compromising their customers or shareholders.

Art Price is president and chief executive officer of Husky Oil Ltd. in Calgary.

Dr. David Schindler,
ALPAC review board member

An improved environment for future generations requires more than just concern about pollution. It requires some knowl-

edge of how ecosystems work, some appreciation for their beauty and recognition that we cannot sustain the environment while also increasing our population, our comforts and conveniences. Signs that this is true are everywhere. In my lifetime, fishing and hunting limits have dwindled and good farmland has disappeared under asphalt as cities grow and more forests are cut. The next generation must be taught a whole new ethic.

For the past 22 years, I have had from six to 15 young people work with me at a government ecology camp in a remote, pristine forested area of northwestern Ontario. My experiences make me cynical about whether environment will be the winner when the next generation weighs it against jobs and comforts. Modern kids do not find wilderness to be a friendly place, for it is unfamiliar to them. For example, surrounded by pristine forests, lakes and streams teeming with wildlife, most students prefer to spend their free time playing volleyball, poker or partying—pursuits that don't require a wilderness setting. Most are afraid to venture off roadways, for they have never been taught such basic life skills as direction finding and canoeing. Many are afraid of bears and other wild creatures—unaware that motorbikes, automobiles and drugs kill many more young people every year than wild carnivores have in all of recorded history.

In brief, the key to success is a more broadly based ecological education, where students are not only taught the dangers of overexploiting the environment, but also to feel as though they are a part of it. Once people feel as comfortable in a forest or on a stream as they do in their own home, and operating a compass and canoe are as familiar as operating a TV or an automobile, we will have succeeded—people do not desecrate their own homes.

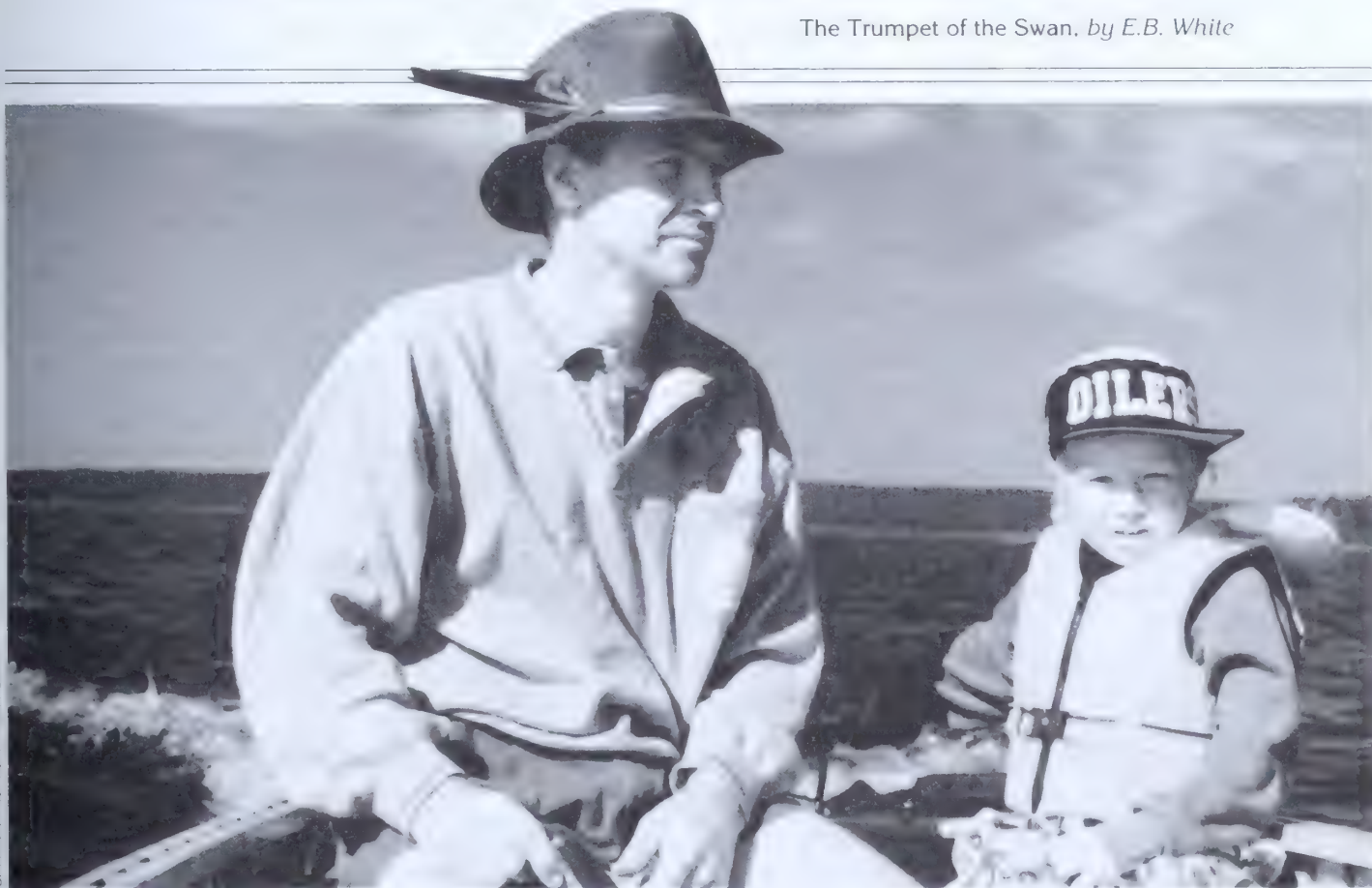
Unfortunately, these values cannot be taught by three or four months of exposing people in their late teens to a few ecologists who are 20 years older. Ecological values must become an integral part of our education system, with parents and teachers at all levels taking an active role in the teaching process. We are so far from this ideal now and so far from practising sustainable development, that it is extremely urgent that these values be incorporated now.

Dr. David W. Schindler is a newly appointed Killam Professor of Ecology at the University of Alberta, where he is a member of both the Zoology and Botany departments. At present, Dr. Schindler is serving as a federal government appointee to the ALPAC review board.

RAISING ENVIRONMENTALISTS: Awareness Begins at Home

"These were the pleasantest days of Sam's life, these days in the woods, far, far from everywhere, no automobiles, no roads, no people, no noise, no school, no homework."

The Trumpet of the Swan, by E.B. White



Teaching children to value nature is an important part of preparing them for the future. Here, five-year-old Patrick Thompson gets a taste of the wilderness on the Churchill River with his dad.

In the Saskatchewan wilderness far, far from everywhere, Sharon Poetker Thompson sits round a campfire and reads aloud. Her children listen, spell-bound. It is the story of Sam, who loved wild animals, especially a trumpeter swan who was born without a voice.

Thompson always brings nature stories or poetry along on family canoe trips. It is one way she helps her children build memories: memories that will mature into a love of the wilderness, and the commitment to save it.

The Thompsons have taught their children to step lightly in the wilderness, as if it were a rare, secret garden.

Thompson and her husband Jamie live in Edmonton, where they are partners in a house-building company. They have two

sons, Obe, 16, and Patrick, five. They are not ordinary parents. The couple once made canoes for a living; now they take their children into wet and wild places that are accessible only by canoe.

Sharon says she worries that proposed pulp mills in northern Alberta will affect wilderness river systems that are so pure you can drink right out of the lakes. Her husband says: "You want to be optimistic and keep working (at protection) because you see how absolutely wonderful the natural world is. You know that we have to have



GOVERNMENT OF ALBERTA

Alf Cryderman (above with daughters Dana and Kelly) and his wife Sue Arrison believe caring for the planet starts in their own backyard.

that to go to. We can't live without it."

In wilderness, he says, you can slow down to a natural pace. You become reliant on yourself. The kids know that's how it was before civilization.

Son Obe is an expert canoeist and cross-country skier. He has spent his summers at Manitoba Pioneer Camp on Lake-of-the-Woods, and Camp Chief Hector near Canmore, where he entered a wilderness leadership training program.

Obe can still remember the 16-day expedition in northern Saskatchewan when he was only three and still wearing night diapers. It wasn't easy for him or his parents. Once a rainstorm loomed and Obe refused to put on rain gear. He was soaked and went howling down the river.

"I can remember horrible times," says Obe. "But it subliminally tied me to nature. It became part of my life." The rainstorm was bigger than him, bigger than the whole family. Obe says: "You have no power over nature. Nature is not something you can subdue. I value nature. I admire it. I'm fearful of it."

Last summer the Thompsons took younger son Patrick on a trip up the remote Churchill River in Saskatchewan, where the jackfish were so plentiful that the boy caught them

on his Fisher Price rod.

The Thompsons have taught their children to step lightly in the wilderness, as if it were a rare, secret garden, which it is. They carry out all their garbage. They scrape pots instead of cleaning them with soap. They don't wash their hair in lakes. They build small fires and let them burn out, because they know water-dousing converts coals to non-biodegradable charcoal.

Obe now has his own list of wilderness savers: He doesn't wear hiking boots with a defined tread. If there are no trails, he and his companions spread out to avoid overusing one area.

Last summer, on a canoe trip on the North Saskatchewan River, Obe smelled excrement as he approached a well-used primitive campground. He discovered people had defecated near the river shore, instead of following the wilderness rule: dig a hole at least 100 yards from the water source, burn your toilet paper, and cover everything up.

Obe also saw trees carved with graffiti, and gum wrappers and bits of plastic left by huge canoe parties loaded with "beer and urban luxuries." Says Obe: "It was a typical example of people not caring for nature."

"My philosophy on the mountains is: Only humans have the ability not to leave a trace. If we can do it, we should. The environment is fragile."

In their daily lives, the Thompsons live as efficiently as possible. "We always fought against going to fast-food places," says Jamie. "When we do, we make a point of showing the kids how much garbage there is."

When Obe was six, his mother took him along to the Edmonton garbage dump. Obe was amazed. "I can remember the smells. It gave me a consciousness: this is what we created, and it's not good. It made me worry: In 10 years, what's going to happen? There goes Edmonton."

Sharon Thompson says Obe is often ahead of his parents in his devotion to conservation, riding his bike until deep snow, for example—and both children give her unexpected insights. On their last wilderness expedition, Patrick absorbed himself in a fish-fly circus and other natural amusements. "It was wonderful to watch Patrick play without toys. We're madly grasping for the ultimate experiences for our kids. But if we just let them be, they'll find those ultimate experiences."

The Cryderman-Arrison Family

Alf Cryderman and Sue Arrison have other versions of TLC for the planet, and it starts in their own backyard.

The couple has two daughters, Kelly, 11 and Dana, nine, who are in charge of separating plastic waste and putting it in a bag on the porch door. The family saves eggshells and orange peels for the compost heap, which has been enriching the vegetable garden for nine years.

Dad and his daughters take regular walks in Edmonton's river valley, not just to enjoy its beauty, but to pick up the trash that spoils it. "It's infuriating to see people leave garbage," says Cryderman. Once, when he saw a man toss a plastic bag outside of his camp space, Cryderman picked up the bag and returned it to the man, saying 'Hey, you dropped this.'

"He gave me a dirty look, but he took it."

Cryderman says he doesn't like confronting people, but he wants his children to see him take action, not just complain, when people assault the environment.

His girls shudder when someone starts playing loud music at a campground. They know their father will immediately go up to the noise polluters and politely say, "Do you want to turn your radio down?"

The girls' mother, Sue Arrison, models a more formal kind of environmental activism. She is a volunteer for Toxics Watch of Alberta, an educational society that worked on the city's toxics roundup of hazardous wastes. Arrison subsequently joined environmental activist Jan Reimer's campaign for mayor.

Cryderman, a journalist for CBC TV, says his family enjoys watching public television for earthly features: "My oldest thinks Nature of Things is one of the best programs on TV." They also look at nature magazines together: *Audubon*, *Nature Canada*, *Borealis* and the children's magazines *Owl*, *Chickadee* and *World Magazine* from *National Geographic*.

Cryderman and the girls joined the Christmas bird count last year, posting themselves at Whitemud Creek. "The kids have better eyes than I do," says Cryderman. "They'd say, 'Oh dad, what's that bird sitting in that tree?'," and I didn't even see it."

Dana is a keen naturalist; she has helped her father separate honey from the three hives he used to keep (the bees froze last winter). "I'm also a volunteer at the Valley Zoo," says Cryderman. "Dana came with me once and we had a ball, bottle feeding baby moose, helping the baby deer get outside, catching all the ducks."

Daughter Kelly is less enthusiastic about nature-play as she approaches the teen years. Cryderman says he went through such a phase too. "In college I wasn't interested either. Yet, you come around again. I grew

up in northern Ontario, where my dad would take me out in the bush. He taught me about plants and animals. Then I passed this interest down to my kids."

The Rasmussen-Dowie Family

Sandra Dowie doesn't believe in scaring children with visions of environmental disasters. "Kids are into hope," says Dowie, an Edmonton mother of two. "What can we do about the global warming effect? That's such a major issue that we feel immobilized by it. I say, what can we do on a local level?"

One answer comes quickly: Dowie and her 10-year-old daughter Teal distributed flyers during Reimer's run for mayor. "I tell Teal that Jan Reimer is environmentally aware; she is one of the people who started the recycling boxes. It's a positive model to see people working within the system."

Dowie's husband, Ray Rasmussen, is a noted Alberta environmentalist. A professor of business and commerce at the University of Alberta, Dr. Rasmussen is active in Toxics Watch of Alberta, the Alberta Wilderness Association and the Canadian Parks and Wilderness Society. The girls listen to their father on TV and radio and read what he says in the paper. They meet his friends and colleagues, such as outfitter Rocky Notnes, who guided Teal and her father on a pack trip into the Willmore Wilderness last summer.

Dowie says she talks about environmental hazards "but our focus is on things we like about nature." After the family moved house to be closer to a ravine, Dowie expanded their bird feeder collection, supplying three different seeds to attract different species. "I talked to Terra (age five) about why we have birds now, and we didn't when we moved in."

Teal takes a naturalist course at the John Janzen Nature Centre in the winter. She has made an aquarium, visited animal sanctuaries and wrapped wire around trees to protect them from beavers. Teal has a tank of mucky swamp water in her bedroom, says Mom, but "she won't let us throw it out because there are three snails and a beetle in it."

For parents looking for more environmental activities, Dowie lists these:

1. Read newspapers with your children, and find out which environmental subjects interest them.
2. Send money to a preservation fund, whether it be to save whales, trees or Amazon jungles (to find such fund-raising organizations, call the Environmental Resource Centre, 433-8711, or the Friends of Environmental Education Society of Alberta, 426-4191).



Ray Rasmussen and Sandra Dowie (with their daughters Terra, left above and below, and Teal, below centre and above right) believe in getting the children involved in environmental concerns.

3. Write letters supporting or protesting an environmental decision. Even a hand-written letter from a child can be effective, says Dowie. She cited the writing campaign that helped shelve the Sunshine ski area expansion. "Fifty letters arriving on the minister's desk has a lot of clout."

"I think that people can make a difference," says Dowie. "We don't believe in the old philosophy that "someone else" will do it."

The MacIntosh Family

If you truly want your children to appreciate nature instead of craving designer jeans and video machines, take a look at the MacIntosh family. They traded the urban crush for a 320-acre farm in the country, on the edge of a forestry reserve about 20 miles from Drayton Valley. Their three children get up

early on Saturday morning — not for cartoons, but to feed the horses, collect the eggs and weed the garden. They are almost always outdoors, exposed to nature's delights.

"At an early age we talked openly about the trade-offs," says Rob MacIntosh. "They can't walk down to the corner store and buy candy, or visit friends right after school. It's not all great from a kid's perspective. But they see the benefits outweighing the disadvantages. They understand our values: that you can hop on skis right from the back door."

The children—Cheryl, nine, Jeanette, seven, and Ian, five—have many chores that reflect the family's commitment to conservation. They are completely in charge of compacting cans and bottles and packing them for the trip to an Edmonton recycling



centre every two months.

MacIntosh and his wife Lorie both work full time. Rob is executive director of the Pembina Institute for Appropriate Development which is involved in environmental education, research and policy development. Both parents volunteer at the Drayton Valley paper recycling project and help maintain trails for the Pembina Nordic Ski Club.

"The kids always want to know what I'm doing at work," says MacIntosh. "They feel empowered. They see that environmental problems are things that people fix. Kids will be empowered if they see adults around them actively involved in trying to create change, trying to improve the environment."

The MacIntosh children learn that every action they take in life can eventually affect the integrity of their physical surroundings. "We help them deal with the pressure to be consumers imposed on them by peers and advertising," says their father. They reduce TV watching by reading, writing and playing games. But when the TV is on, they watch together. "We critique what we see. We focus the children's attention on the purpose of advertising: getting you to buy things you don't really need. Now they tend not to believe advertising. They tend to ignore it."

It is the money-saving aspect of reduced consumption that appeals to the children right now. Nevertheless, the environmental link is there: "If you are not buying a bunch of things you don't need, you don't use a lot of resources we are short of," says MacIntosh.

Recreation choices also reflect a love of the land. The MacIntosh family cross-country skis together, which is inexpensive, saves energy (no cars, no lifts) and is good aerobic exercise. Most of the children's friends downhill ski, MacIntosh says, but his kids know how to find excitement and speed on the cross-country hills.

Summers mean canoeing. MacIntosh believes in sharing values with his children, not indoctrinating them. "If we are paddling up Brazeau Lake, instead of saying, 'Gee, that motorboat sounds awful doesn't it,' we say, 'What do you think about that motorboat? How does it make you feel?'"

In this way, the children almost unconsciously inherit the philosophy of the parents: We must be harmonious with our environment.

The Kostuch Family

Martha Kostuch is one of the leading advocates for environmental protection in Alberta. She is also a mother. So how do those roles mesh?



The MacIntosh family's recreation choices reflect a love of the land. Jeanette, Cheryl and Ian enjoy hiking in the summer and cross-country skiing in winter.

The MacIntosh children learn that every action they take in life can eventually affect the integrity of their physical surroundings.

"I don't push my kids. I don't lecture them, because you can turn them off. I teach by example," says Dr. Kostuch, a Rocky Mountain House veterinarian. "I spend a lot of time talking about the issues, and they are very well-informed as a result. I have spoken to their classes when invited to do so. When we have an injured owl, we take it to the classroom."

Dr. Kostuch's four sons are John 20, Edward, 15, Danny, 15 and Mark, 14. When the boys were younger, they joined the Junior Forest Wardens and learned many preservation practices at the annual camp near Athabasca: how to prepare waste materials for recycling; how to survive in the backcountry and how to regenerate damaged vegetation. "It is an excellent camp," says Dr. Kostuch. "They're not lectured. They're out there learning about it, which is the best way." The boys'

father, Tom, was a leader of the Rocky Mountain House Junior Forest Wardens for nine years.

At home, the family learned to turn off lights, turn the heat down, ride bikes, use energy-efficient cars and combine trips to reduce driving.

Dr. Kostuch has opposed construction of the Oldman River dam for many years, on the grounds that it will destroy three rivers. She and her family went on a canoe tour of the Oldman, along with fisheries experts, archeologists and journalists, to view the buffalo jumps and wildlife habitat that Kostuch says would disappear if the dam is built.

Son Mark, who is interested in law, accompanied his mother to court two years ago to challenge a water licence under the Water Resources Act. "He was 12. He understood what was being said," says Dr. Kostuch. "I keep him informed on the cases."

Martha Kostuch taught her children that every obstacle was an opportunity. "If there was a problem, I encouraged them to look for solutions." She is fervent about saving the Oldman River, but she is also patient. "I try to view issues over a very long term. I am persistent. I don't give up." If there is a setback, she says, "you just have to look at another way to do it."

Ronnene Anderson, an Edmonton freelance writer, is the editor of PIN magazine for parents.

ENVIRONMENTAL CONSCIOUSNESS In the Classroom

"We are the new generation. We have got to try to fill in the hole that the generations before have dug."

Karina Heck, Grade 11 student, William Aberhart High School, Calgary.



Cheryl Feragen's Grade 2 classroom includes a tarantula, a bee colony and a guinea pig.

In her intense desire to make her Grade 2 students aware of environmental problems, Cheryl Feragen plans to use a kind of shock treatment—this year she'll take her students to the Edmonton dump, the dead end for society's wastes. She hopes the experience gives them a powerful and unforgettable image of the hole their elders have dug.

"We want students to know that when garbage is put out back, it doesn't just disappear," says Feragen, a teacher for eight years at Edmonton's Windsor Park elementary school. "They have to know that the

world doesn't end at the back of their yard." Like many modern Alberta educators, Feragen feels that the best classroom for environmental study is the outdoors, whether the settings are shocking or pleasant. She takes the same principle into the school by providing real environmental experiences in her class.

Her classroom habitat includes a tortoise, a tarantula, a bee colony and a guinea pig, displayed all around the class and visible to the students at all times.

"Children learn that each plant and animal has an important part on this planet,"

she says. Children observe and care for the classroom animals. "This opportunity leads the children to learn how other creatures behave and what they need."

Some children are so fascinated that they often linger for a half-hour or more after school, quietly observing the animals.

In spring, Feragen's students watch ducklings hatch in class. From the 12 eggs they nurture, four birds might emerge. "The students see the process, the length of time, and the delicate balance with temperature and moisture," she says. "They also realize that not all eggs hatch."

*"They have to know
that the world
doesn't end at the
back of their yard."*

Teaching environmental awareness first involves observing, maintains Feragen. "All children observe. Young children also need more direct, concrete experiences. By the time they reach Grade 6, however, they can take their experiences, do research and go to the books. They can inquire and get involved in an issue. They're able to integrate the practical with the theoretical." Feragen says children at this stage begin to feel some power, and believe they can work to protect nature. Whenever possible, they do the work outdoors.

Nestor Kelba, supervisor of the Calgary Board of Education's Environmental and Outdoor Education Team, agrees with these ideas. "It's hands-on learning," he says. "There must be a deep feeling for the natural world. It's much more effective teaching about our environment and its future by going outside."

Dianne Hayley, co-author of *Knee High Nature* with Pat Wishart, uses the same philosophy. "You must be in it. Take environmental studies outside where they belong," Hayley and Wishart do just that in their courses at the John Janzen Nature Centre in Edmonton, and at the Strathcona Wilderness Centre near Ardrossan.

Mary Stoker, Grade 3 teacher at Ronald Harvey elementary school in St. Albert, says the best way to develop an appreciation of the environment is to "observe the outdoors, become part of it and learn from it."

Dean Roberts, who teaches grades 7 and 8 at Branton Junior High School in Calgary, concurs. "We all have to abide by certain environmental laws, and our current lifestyles divorce us from that reality. Awareness building begins outside and continues into the classroom."

Linda McClelland, science department head for William Aberhart High School in Calgary, sends students outside to see and sample what is growing in the Bow River.

*With the help of materials
borrowed from the John Janzen
Nature Centre, children at
Edmonton's King Edward
Elementary School study
nature in the city.*



In this way they learn about the importance of the water and the level of pollution in the river. "Students better understand our environment and their impact on it from projects like this," she says.

Teaching children to respect their environment should begin as early as possible. Dianne Hayley and Pat Wishart have been running courses for children as young as three. "If children are exposed to outdoor activities at an early age, this interest continues throughout life," says Hayley. "It's a matter of just being there, appreciating nature and having a good time. Adults must accompany children and we insist that youngsters never be left outside until they're cold, crying and feeling rotten."

The philosophy is simple, says Hayley. "The adult shares her knowledge with the child, while the child shares his wonder with the adult." Something as simple as a leaf is so fresh to a child, while the look of profound joy is a delight to share, Hayley says. "The child's first look at the wonder of the outdoors is not clouded with our cluttered knowledge. It brings out the child in all of us."

Hayley and Wishart tell the children they

own the environment, and must care for it. "If the children say, 'the park belongs to us', then they will want to look after it," says Hayley. The program includes games and treasure hunts. "We want the children comfortable in the woods. Adults are there to answer questions so sometimes we throw in big words like hibernation," she says.

Older students can enjoy an action-oriented approach that stresses that environmental conservation starts at home. Hayley heartily endorses the County of Strathcona's Conserve Action Program which shows children and adults how to protect habitat on their own land. "We learn what each of us can do. It's easy to point the finger at rainforest destruction," says Hayley. "But what about here? We have to conserve in our own neighborhoods, sloughs and ravines."

In Mary Stoker's Grade 3 class in St. Albert, children begin to discuss the environment in sophisticated ways. "At this stage, the children can observe, become sensitive and learn to appreciate what we have," says Stoker. She tries to convince each child that she or he can make a difference. "If this generation of children feel such a responsibility, they will go ahead and do what's needed for our environment."

Stoker uses some unique teaching strategies that integrate the academic curriculum with environmental awareness.

"For instance, the children adopt trees. We might do a language arts study where the children go down to the park, each adopt a tree and measure or even write a poem about it." Stoker teaches the importance of trees, sun and insects for the food chain cycle. "You can take away people and still not affect the food chain. We're the dispensable part."

Stoker's students also study water. They trek down to the Sturgeon River to peer into its murky depths for clues about contamination. "The children see that water contains life, so when something is poured in the



river, it's affecting life," notes Stoker. She believes everyone is responsible for protecting the environment. "As educators we start by teaching what's there. The first skill always is to observe the outdoors and learn from it."

Adolescence can alter some of that optimism—or at least defer it. Dean Roberts teaches community and environmental studies in Calgary. He says it can be a challenge to get young teens to think past the "zits and hormones" that dominate their lives at this stage, but feels his students have done admirably well.

"The trick is to make environmental awareness trendy" by making it relevant to where students live and what they do, says Roberts. Students get involved in projects in their own communities. Roberts tells them that everyone must abide by certain environmental laws, but our current lifestyles work against that. "Our lifestyles must be in tune with environmental harmony," warns Roberts, or our future is in jeopardy.

His case-study method examines social and environmental problems of a nearby community. The 16-week series asks the question "how important is the environment around you?" His four-phase approach helps students understand the problems, and gives them the necessary skills to take action.

Robert tries to show the interplay of values and trade-offs. To help students understand such conflicts, he holds "auctions" in which positions are sold to the highest bidder. For instance, students bid to become president of Sunshine Village Ski Resort, a major stockholder in a strip mining company or president of General Motors. A student may bid to become a prominent environmental scientist or president of Greenpeace. This exercise shows students how some of our social values are misplaced.

Students also learn about competing interests by studying the workings of an inner-city neighborhood. They talk to alder-

men, urban planners, interest groups and residents. They review civic documents.

By the end of the course, the students are able to talk about what they can do to make changes. They learn about lobbying and letter writing and discuss the actions of active groups such as Greenpeace and Direct Action.

For Roberts and many others, the new Alberta Education environmental and outdoor education curriculum for junior high schools promises a welcome change. Its focus is on acquiring knowledge and then taking action. The Program of Studies draft, recently prepared by Calgary's Environmental and Outdoor Education Team, states: "With some focus of attention, it can become clear how group and personal actions have environmental consequences. This personal awareness and knowledge can be extended through further study of environments, the interrelationships within them and ways in which we manage local and global environments for the good of all of

Outdoor School

The largest classroom in Alberta is a resounding success. Calgary's Environmental and Outdoor Education Team has been using the outdoors as a classroom since the Calgary Board of Education began it as a pilot project in 1964. Twenty-five years later, the program is more popular than ever.

"We wanted to make the outdoors a teaching laboratory where the environment was linked to academic needs," says Nestor Kelba, supervisor of the team. "Our objective then was very simple—to make an outdoor educator of every teacher in the system. It's still our philosophy."

Today the emphasis is on the environment and the classroom teacher. According to Kelba, the outdoor team offers many different kinds of programs. "We try to meet the needs of Calgary teachers and schools by recognizing distinct learning and teaching styles." Calgary schools gear the type, length and season of their outdoor programs to academic and social needs. Programs are also matched between schools.

About 8,500 students are enrolled in 12 residential programs at six sites. An environmental awareness day trip program attracts 5,000 early childhood to Grade 3 students every year. In addition, resi-

dential programs continue throughout the school system.

Each of the sites is unique. Camp Kiwanis, for example, teaches the link between ecology and society by focusing on multicultural leadership. High school students are matched with English as a Second Language (ESL) students. Although the students don't share a language, they communicate by observing and learning about the environment. In this way they begin to understand each other.

Another innovative program is Sun-

ship III, which allows students to spend four days with teachers and parents in an outdoor camp. The many activities illustrate the delicate balance between earth and its life. The school hopes participants will learn and follow environmentally sensitive lifestyles.

Junior high students flock to the Kananaskis Young Scientists Project at the University of Calgary. For four days they are young scientists, examining forests, ponds, lakes and streams. The goal is to work as a group and learn about the environment.

In 1982, the recession hit the outdoor team very hard. The Calgary board cut funding from \$360,000 to only \$6,000. Kelba and his crew had to think hard about how they could survive. "We needed something drastic," says Kelba. "So we started a user pay program. After all, in a tight economy you diversify."

Board funding has since risen to \$60,000, much of which is used to subsidize needy students. Most programs cost students and school teachers \$100 each. These user fees provide about \$750,000 of the team's budget.

Nestor Kelba refuses to take success for granted. "Our programs have to be tops even though we have tremendous support from the parents and kids," he says. "They are more sophisticated about the environment and are looking for better ways of doing things."

The outdoor team intends to keep looking with them.

CALGARY ENVIRONMENTAL AND OUTDOOR EDUCATION TEAM



Nestor Kelba, supervisor of Calgary's Environmental and Outdoor Education Team.

the living things on earth."

This program will clearly prepare students for the projects of teachers such as Linda McClelland. "We encourage students to understand different perspectives and make decisions on environmental issues," she says. Students read newspaper articles on issues like dam development, and analyse the pros of irrigation versus the cons of flooding animal and plant habitats. Another project involves sampling, identifying and counting macro-invertebrates like worms, insects, clams and snails from the river bottom. Students learn that some mayflies can't tolerate a high acid level or low oxygen content in the water, but earthworms and leeches can. In this way students determine just how polluted their river really is.

Some teachers at William Aberhart High team up with the Energy Resources Conservation Board (ERCB) to stage role plays. In one, the students debated acid rain (using information from the journal *Science Teacher*, April 1984). There were 20 distinct points of view, and students were expected to express opinions not their own.

In another successful role game, students staged a public hearing based on a real situation where an oil company wanted to build wells on private property. There were 12 different positions, and the final decision came from a panel of two students and one ERCB employee.

Although students initially leaned toward the straight environmental argument, they ultimately voted in favor of one well and gave conditional approval to the other if it were moved. This was also the decision of the real public hearing on which the game was based.

Development may have been the creed 20 years ago, "but today, it's development with caution," says McClelland. From these exercises, students learn different viewpoints, realize their own impact and garner career information from experts in the field.

McClelland also likes the everyday application of science and environment. "What happens when you flush the toilet or drain the sink? It doesn't just disappear." She also talks about safe, environmentally friendly products for the home. McClelland polled a class of 30 students to gauge environmental awareness. All believed the environment was a major factor in any development. Twenty-seven felt they had a role to play in changing the environment, and 26 were optimistic about that change.

This would encourage Professor Lucius Stebbins at the University of Lethbridge Department of Biology. "It's important up to the high school level to explore problems in the widest form possible, and make stu-

dents aware that solutions are difficult but possible."

Most students coming into the university know very little about the environment and even less about ways to improve it, except the few who read, says Stebbins. He gets them started by writing hundreds of questions on the chalkboard, and then leaving students to find the answers in their texts. "This gives them focus for reading with a purpose," he says. The students enjoy the process, and learn more by reading the text on their own.

Stebbins is a voracious reader of books, journals, magazines and newspapers. Always current, he discusses critical environmental issues with students and explains how and why they need vital information.

"Our ability to understand solutions is quite limited," says Stebbins. "Simplistic solutions are emotionally appealing, but the real environmental problems are rooted in economic, social and political behavior." For Stebbins, most environmental problems must be understood in terms of ecology, biology and economy.

In his classes, Stebbins looks at a series of hierarchical relationships. He examines agricultural, industrial and economic systems including bonds between cities and ties between countries. "We realize that no one ecological disaster can be considered in isolation," he says. The principal environmental problems are ultimately global in scope and solution.

Stebbins says it's not enough to get emotional. "Students and society must get intellectual and take leadership." Because environmental problems represent international rather than local decisions "we can't come up with solutions in isolation of the international," says Stebbins. The teacher can pass on his or her experience and wisdom on world issues to the student. "It is in this area where society should especially value the more mature teachers," says Stebbins.

Stebbins' goal is to prepare students to learn more. "I want them to have a life-long interest in learning, and to be able to analyse and communicate."

Since most students don't go to university, high schools must produce students who love to learn and read. The success and continuation of a democracy depends on people being informed, says Stebbins. They should be taught to read the newspapers. "In fact, the major role of our educational system is to raise the general level of awareness on serious issues. This must be through reading."

Sydney Sharpe is a freelance Edmonton writer.

Knee High Nature

Although Edmonton naturalists Diane Hayley (below) and Pat Wishart intended their *Knee High Nature* books for young children, parents, teachers and leaders will find information and activities to interest any age group.

The authors, while keeping the material simple and to the point, have managed to cram an incredible amount of information (and games, tales, songs and poems) in each volume. In the fall book, for example, you'll find out how bats see in the dark, why leaves change color in the fall, and what you can do if you meet a bear.

"We have worked with preschool children and adults for several years at the John Janzen Nature Centre in Edmonton," the authors write in their introduction. "We have been inspired by children who bring with them enthusiasm and a sense of adventure and wonder. How easily they can spot a tiny ant, see a spider crawl under a leaf, smell the sap on a sun-warmed spruce tree or hear a duck quack. The purpose of these books is to increase awareness and appreciation of nature and to encourage adults to share their knowledge with children, and children to share their sense of wonder with adults."

The winter volume has been available for a year, and the fall book was released in October. Both are available at nature centres and good bookstores throughout Alberta or by contacting the authors at *Knee High Nature*, 52080 Range Road 213, Sherwood Park T8G 1B5. The spring and summer volumes are in progress.



KNEE HIGH NATURE

ALBERTA KIDS

Turning Commitment Into Action

Meet young people who are doing something about it.



Junior Forest Wardens tending seedlings they planted as part of a reforestation project at TransAlta Utilities Ltd.'s Whitewood Mine site.

The environment is on everyone's mind these days. You can't open a newspaper, turn on the TV or listen to the radio without hearing about some new environmental concern.

Where do we put the next landfill? Why do we throw away so much? How can we reuse, recycle as much as possible? Where can we put our PCBs? What can we do to halt the destruction of the ozone layer? Why are we losing so many species of flora and fauna to extinction every year? Just why can't governments get together to control polluting emissions?

Everyone must become involved. Especially the younger generation. Many older

people don't think much of the younger generation's track record when it comes to environmental concerns. Have you visited a playground recently and seen the juice boxes, pop cans and styrofoam fast food containers blown up against the schoolyard fence? Many baby boomers look back nostalgically at the '60s and remember when they were busy protesting about the world's inequities and injustices, including environmental problems. They accuse today's youth of being apathetic, imitative, materialistic and not remotely interested in the protection of the environment.

But this is not true of them all. There is a growing environmental concern in Alberta,

and many young people are turning their concerns into action.

A Better Sprinkler

Bruce Burk has been tinkering with machines for as long as he can remember. He is now a Grade 10 student at the Duchess School, living on the family farm. He has a collection of old steam engines (which his grandmother picked up for him over the years at auctions) and his first science fair project, in Grade 5, was a test of the various types of steam engine fuels. Since then he has entered science fairs with projects on subsurface drainage, lubricants on chains, and roof trusses for houses and barns. He

plans to study mechanical engineering when he graduates from high school, and says he is always interested in making farm equipment more efficient and environmentally sound. In his spare time, Bruce restores antique tractors.

"I got a 1935 tractor from my neighbor's place. I took it apart and cleaned it up - took me a couple of years. I entered it in a show in Calgary, and it won fourth best!"

Duchess is irrigation country and Bruce was familiar with the complaints from farmers about the traditional wheel-line sprinkler system.

"Moving the system from one area to another takes a lot of time. You have to turn the system off, disconnect the pipes, and then before you move it you have to empty out all the water, otherwise it would be too heavy and would break. This takes a lot of time and can cause problems of erosion or salinity because it dumps too much water in one place."

What was needed was a sprinkler that both speeded up the drainage process, thereby saving the operator time, and also provided good spread and distribution of the water. So Bruce set about to modify the system they were using on the family farm. Bruce manufactured a nut that screws onto the bottom of the valve which controls the opening and closing of the system. Wheel line sprinkler systems are usually about half a mile long, made up of 40 foot sections of pipe connected by clamps and a valve. There is currently a patent pending on Bruce's invention, so he is reluctant to provide many details at the moment. He says the advantage his system has over the original system is that it has the fastest drainage and the widest spread of any sprinkler system currently on the market.

"I set up in the garage and used a large pipe to test the efficiency. When it worked with that I moved to an even bigger pipe. I made the nut by making a cast out of cement. Then I melted aluminum parts with a blowtorch and drilled holes in the side. I tested the nut in the system, and I also tested it against other ones."

Bruce then tested his valve and nut in the fields using one 40-foot section and one wheel. He carefully monitored the speed of emptying and the spread and distribution, and was excited by the results. He entered his project in the Duchess science fair and then took it to Brooks and then to Medicine Hat, where he demonstrated his prototype and his results. At each science fair he won first prize. The next step was the national science fair in St. John's Newfoundland in May 1989. Between March and May Bruce redid all his tests to check his results and to

try to improve the product. At the national science fair he won an honorable mention in the engineering category.

"A lot of people have asked about it. We're checking into patents and manufacturing right now. If we can make them we can certainly sell them. The existing sprinklers can be a real time waster."

Clean Water

Misty Stack is a 12 year-old Grade 7 student at Parkside School in Redcliff, a small town outside Medicine Hat. Many of her rela-

The Junior Forest Wardens and 4-H programs often spark a life-long environment interest and concern.

tives live close to Ross Creek and use the creek water for drinking and washing and for watering their livestock. They have long been concerned about the quality of the water; the Elkwater community upstream dumped sewage, and there was concern about pollution from a dairy upstream as well as from livestock. In 1987 the water was tested and found to have a high bacteria count as well as high levels of minerals. It was bad enough that some families had to haul water until the situation was corrected.

But last year, despite the fact that Elkwater had stopped dumping sewage into the creek, there was still concern about the water quality. Misty decided to investigate further.

"I read about this kit in a magazine and I ordered it from Toronto. Then I read up everything I could on water pollution in encyclopedias and in the library."

Her testing showed the water to be relatively clean, with slightly elevated chloride levels, but "I tested in winter, so the results could well be different in summer when animal pollution might be a factor."

Misty took her findings to the Medicine Hat science fair where she won first prize in the life science category. Misty has been entering science fairs since Grade 4 and plans to carry on, "probably with another environmental project."

Saving the Rainforest

Nadine Bodgener and Colleen Seto live in Calgary. Last year they were Grade 6 students at Kingsland Elementary School. Their teacher, Gail Hoffman, was in the middle of

a language arts unit talking about recycling and endangered species. "Some of the class were finished the assigned task, so I gave them a magazine, Operation Lifeline, to keep them busy and quiet."

In the magazine there was an article about the cutting down of the rainforest in Central America. "The article said that every minute an area the size of a football field was being cleared for farmland," said Colleen. Nadine read with concern about how the destruction of the forest depletes oxygen levels, wipes out unique species, forces tribes out of their homeland. They turned the page and read that they could help save the rainforest by buying small parcels of the land through the World Wildlife Fund.

"That was it," says teacher Gail Hoffman. "Their enthusiasm took over the whole class."

They held a giant white elephant sale, after collecting games, books, toys, etc in the back of the classroom.

With the proceeds of \$109, they were able to buy 4.4. acres of rainforest. They have a deed of ownership that hangs framed at the school to remind them of their achievement.

But the enthusiasm didn't end with the sale. Students from the class were invited to speak at other schools on the rainforest project, but also on recycling, endangered species and the greenhouse effect. Students who didn't actually give the presentations were involved in the research and making posters. "The students were wonderful," reported teacher Gail Hoffman. "The high school students were really impressed."

And the interest in the environment lives on. Neither Colleen nor Nadine had ever done anything like this before, but "it felt really good to make it work." And Kingsland Elementary has adopted an environmental theme for this year with total involvement from every classroom in the school.

Both the 4-H and Junior Forest Warden programs offer action-oriented environmental programs that often spark a life-long environmental interest and concern.

Junior Forest Wardens Program

The Junior Forest Wardens program is one of the fastest growing youth organizations around and one with a solid base in conservation.

There are 117 Junior Forest Wardens groups in Alberta, with about 3,000 young members and some 670 adult volunteer leaders. The program started in 1930 in B.C. to fight rising forest fire losses in that province. It spread to Alberta in 1961 and was expanded to include all conservation. The

program is built on four program areas: forestry, ecology, woods travel and leadership. "What makes it so appealing," says Jerry Fochler, assistant supervisor of Forestry Youth and Social Development for the Alberta Forest Service, "is that it is minimal cost, outdoor oriented, hands on, challenging and a chance for the whole family to have fun and address environmental concerns at the same time."

Club projects reflect the commitment to conservation. Some current projects include providing nesting boxes for ducks, monitoring a mountain bluebird trail near Magrath, tracking and collaring wild cougars, building loon nesting sites at Crimson Lake, and planting trees.

Bev Larson is chairperson of the Evergreen Junior Forest Warden group at Dufield. She has a group of 35 kids between the ages of 7 to 12, meeting regularly for nature walks, snowshoeing, canoeing and cross-country skiing.

For the past two years they have been involved in a reclamation project with the mining division of TransAlta Utilities, helping restore the Whitewood Mine site. TransAlta is refilling the lake that was drained, and the Evergreen Junior Forest Wardens are helping to reforest. Every year for five years they have spent one day planting between 200 and 500 new trees.

"The first year, they didn't do well at all. It was learning about forestry the hard way for the kids. We're hoping the ones we planted this year will do better," said Bev Larson.

An important part of the Junior Forest Wardens program is working as part of a team. Fifteen-year-old Mark Beattie was the lucky member of the Okotoks Junior Forest Wardens picked out of a hat to join a cougar tracking and collaring project in the foothills. After tracking a cougar and three kittens by four-wheel drive, snowmobile and on foot for five and a half hours the group finally treed the mother and tranquilized her. But the tranquilizer didn't take effect immediately and the cougar took off. "She made a 180-degree turn, jumped and was running before she hit the ground," recalls Mark's dad, Dave. "It was another hour before we caught up to her."

Mark's Junior Forest Wardens group, the Okotoks Redtail Hawks, got involved in the cougar monitoring program after one of the researchers showed slides about the program and talked about the hunting dogs used to track the cougars. Group chairman John Gunton is very proud of his group's involvement in the project.

"We went door to door in Okotoks collecting bottles and cans and managed to

raise \$830 which we presented to ARC to help them buy or recondition the radio-telemetry collars that they use. Existing collars get lost or damaged, and there are always new cats to be collared, and each collar costs over \$200 new."

The Okotoks Redtail Hawks have 76 members between the ages of six and 15, divided into three clubs by age. Last year the group received an award from the Alberta Fish and Game Association which is given to youth groups showing initiative in the area of environmental protection.

Gunton says they continue to receive

pendence of each area. Carol and the 70 other campers between the ages of 14 and 21 did hands-on exercises and went on field trips to promote their recognition of each resource, an understanding of its uses, and an appreciation of the need for and ways of conserving that resource.

Henry Weigman, provincial 4-H agriculture specialist says, "We want delegates to leave the camp with a greater awareness of how they can contribute to maintaining and improving the environment in their own communities."

The camp encourages students to develop



Junior Forest Warden Chad Roberts poses proudly by one of the seedlings he planted.

updates on the cougar monitoring program, but they are also investigating a new project in the area. "New projects have to meet the environmental, ecological criteria of the group, and also fire up the interest and enthusiasm of the kids involved in the project."

Alberta 4-H Conservation Camp

Carol Braat is a Grade 12 student at Kate Andrews School in Coaldale in southern Alberta, living on a farm just south of there. Last year she and her friend, Ennette Vanden Elzen, attended the 4-H Conservation Camp at Battle Lake, "for something to do."

The camp focuses on five areas of the environment; soil, water, range, forestry, and fish and wildlife. Carol chose fish and wildlife, and forestry. The theme of the camp was "Five is One", representing the concept that a true conservationist is concerned with the uniqueness and interde-

a community-oriented environmental project in their home communities. Carol's original intention had been to just go to camp, but she was so enthusiastic about her experiences and learning that she wanted to share it. She and Ennette developed a conservation poster for Coaldale Settlers Days.

Part of the project included a visit with Coaldale elementary students to talk about farming and conservation, and a presentation to other 4-H members who were considering going to the conservation camp.

Alberta Power and TransAlta Utilities are sponsors of the camp. They, along with resource specialists from the Alberta government and Olds College, lead group and study sessions to promote learning about conservation and the role that the campers can play in that conservation.

Hazel Sangster is a freelance writer based in Edmonton.

LETTERS

Recycled Paper Mill Needed

Dear Editor:

During the last few weeks many concerned Albertans have surely been following the developments concerning the two huge new pulp mills proposed for the Athabasca area. While to some such a development means a promising economic boom, to those environmentally oriented it spells sure disaster. The official report released by Alberta Environment, which stated that already existing mill operations along the Athabasca are destroying the river by pumping dangerous pollutants into it only confirmed such fears.

At the same time a matter of some concern has been Edmonton's newly established recycling program which is being hindered by the lack of a market for the collected materials, or to be more specific, a lack of the specialized technology necessary for the efficient recycling of the materials being collected.

The proposal I would like to bring forth is the development of a large, modern, environmentally safe recycling facility near Edmonton, rather than going ahead with the environmentally destructive pulp mills. This simple and obvious solution could help abate several problems. First, the further destruction of the Athabasca aquatic environment could be prevented. Second, our recycling program could become a truly significant contributor to environmental conservation. And lastly, with large-scale recycling the amount of residential refuse dumping may be reduced significantly.

Sincerely yours,
Dave Vojtisek
Edmonton

Thinking About Pulp Mills

Dear Editor:

Congratulations to you and your staff on a particularly well done issue. I found Claire Stirling's article very clear and useful. Watching the pulp mills being built now, when many of the buyers of newsprint are being forced to consider recycling their waste paper surely gives many of us reason to question the wisdom of the planners. I would be interested in reading about the strategies being used to recycle all types of material around the world. Thanks again for the information.

Yours sincerely,
L. Munroe
Slave Lake, Alberta



Plants Should Use Recycled Paper

Dear Editor:

The articles in the latest *EV* issue were most timely; I am especially referring to Gail Helgason's Getting the Public Involved in Forest Management. The Greater Victoria Environmental Centre, of which I am a board member, has some weeks ago written to one of the Alberta mills to be built, Alberta Newsprint Co., with the question if they are going to use any post-consumer paper. This company had an advertisement for personnel in our local paper, and the ad mentioned the use of a mixture of spruce,

lodgepole pine and aspen for the manufacturing of newsprint. Copies were sent to the premiers and ministers of the environment in B.C. and Alberta, as well as the minister of the environment in Ottawa. No answer has been received as yet. My daughter in Brooks wrote me that neither Brooks nor Drumheller have collection points for old paper anymore; in B.C. we are anxious to have the province process the millions of tonnes of paper resulting from several curbside pickup programs that have been started this year, but we know that west of Ontario there are no mills that have the facilities or are planning to have them in the near future. One of the government's purchasing agents stated that paper with recycled content was 30 per cent more expensive than 100 per cent virgin paper, but this is no doubt due to the fact that it is only available in the U.S. Saving the forests as well as millions of tonnes of water, keeping chemicals out of the rivers and old paper out of the dumps MUST result in a saving in the long run. My question is now: to what extent do the seven proposed new mills and extensions plan to use old paper?

Thank you.
Ms. E. Roelofsen
Victoria, B.C.

Litter Education Needed

Dear Editor:

I have recently read about some of your concerns regarding the environment and fully support your views and aims in this direction.

I do have one additional concern, however, which seems the most simple to implement. That concerns the amount of litter thoughtlessly discarded along our public waysides and highways, as well as that found typically along any city street, shopping

centre and many schoolyards. Can Alberta Environment use its considerable influence to somehow educate the public and others in positions of responsibility in public attitudes toward this unsightly menace?

I would think that full-page ads in our papers, TV spot commercials, talks at schools, school boards and to management of shopping centres, etc., would be ways in which this—the cheapest by far on any cleanup involved—could be discussed and implemented?

Sincerely,
Rev. James P. Buenting
St. John Lutheran Church,
Calgary, Alberta

Forest Issue Welcome

Dear Editor:

I just finished reading the September 1989 issue of *Environment Views* that focused on forests. I am excited to read something that is articulate, informative and can be utilized by many different readers with diverse backgrounds.

We are currently involved in planning the next program in a discovery centre here in the Children's Zoo. The theme for this coming spring is water habitats and the importance of water conservation. We are trying to gather materials to develop exhibits and programming. Is there a copy of *Environment Views* that focuses on acid rain or wetland habitats, salt marshes or ponds specifically? We would be very interested in obtaining copies if these are available. Thank you for your assistance.

Sincerely,
Hunter S. Smith
Zoolab Assistant,
Children's Zoo,
Cincinnati Zoo and Botanical Garden

New World New Mind

Dear Editor:

I must commend your magazine for doing an excellent job of informing the public on environmental issues! Every citizen in Canada should be reading your magazine. On another note, I have a book suggestion for your book review section: *New World New Mind* by Robert Ornstein and Paul Ehrlich, Doubleday Press. This book has changed my entire outlook toward environmental problems. It has literally given me a new mind in a new world!

I am convinced this book can be a catalyst toward changing people's attitudes toward their role in our ever-changing environment. I encourage you to have someone read and review this worthwhile book.

Keep up the good work.

Yours truly,
Kevin Rumsey
Yellowknife, N.W.T.

Recycled Paper Supplier

Dear Editor:

We have found many individuals involved in environmental groups or otherwise complaining about lack of availability of quality recycled paper. Another constant complaint was the high price of the product.

We decided to do something about these problems. Combining our concerns over the environment and our business experience we formed Lucid Systems; a recycled paper distribution company.

Our strategy is to buy truckloads of paper at a time, "direct from the source," thereby reducing unit cost of the various paper products. As a result we can sell this 100 per cent recycled and unbleached paper at prices comparable to conventional paper prices. In addition we will provide paper for non-

profit societies and environmental groups at low prices that cover freight and handling only.

Fellow friends of the environment,
Dave Ridgeway
Paul J. Belanger
Lucid Systems,
Valleyview, Alberta
Ph: (403) 539-9446
Fax: 539-1788

Green Radio Waves

Dear Editor:

We have read your magazine with great interest and have found it useful in broadening the scope of our specialty program on the environment. It has also been of use in the past on our international news analysis program.

At FM88-CJSR, we attempt to provide the spectrum of challenging ideas to our listeners. We are a progressive, independent radio station which is volunteer-run and listener-supported. We also seek support from the community and international groups.

We feel our listeners are well served because we are able to raise public awareness on issues that concern them. We reach 40,000 people per week, including students at the University of Alberta. Terradox, Edmonton's only environmental radio show, is heard Wednesdays at 5 p.m.

Sincerely,
Amy Santoro
News and Public Affairs
Director,
FM88-CJSR, Edmonton

Forestry Issue in Demand

Dear Editor:

I recently was given a copy of your September 1989 edition of *Environment Views*.

I found the series of articles dealing with the boreal forest and public involvement very

interesting and would like to obtain 20 copies of the September issue.

Your supply of this material would be appreciated. Please accept my congratulations on a very informative publication.

Your sincerely,
Stan Eagleton
Chairperson,
Manitoba Clean Environment
Commission



Choose The Indisposable

Dear Editor:

Wow! What a great magazine! Joan Little, Chairperson of Le Leche League Outdoors, recycled her copy by passing the June issue on to me. She raved about your magazine and its contents on helpful household hints.

I am a representative of the Indisposable Cotton Diaper Company, a Vancouver-based cloth diaper manufacturer that was recognized and honored for their outstanding environmental commitment and initiative by the Society for the Promotion of Environmental Conservation in June of this year. The company not only promotes and manufactures an excellent cloth diaper, but continually examines their processes and methods to be environmentally conscious and friendly.

Our letterhead, envelopes, brochures and other printed

promotional material are printed on recycled paper; diapers are packaged in recycled unbleached paper bags, the scrap cotton is recycled to the Imagination Market; detergents recommended to use on the diapers, i.e. Shaklee, are biodegradable, phosphate and bleach-free; and education of environmental problems is emphasized.

As reps, we are required to be aware of and learn and educate others about the growing landfill problems and associated environmental concerns. The company's helpful/partial solution is to educate our customers about the problems and the need to recycle.

An interesting excerpt from *For A Change*, October 1987, by Raphael—former Attorney General, Guyana, who served on the World Commission on Environment and Development (UN 1983-1987) was included in our last newsletter. It went as follows:

The "Indisposable" Environment

But what can the person in the street do? "Everything!" says Raphael. "Ordinary people have the greatest aggregate power to act — but first they have to become aware and care. Twenty years ago I thought that enlightened governments could save the world. Now I'm convinced it is enlightened people that have to save both governments and the world."

It's people like you, your readers and me who can make a difference. If your publication is seen by more people—hopefully more people will become "aware and care." Thanks and keep up the great work!

Sincerely,
Sandra Kanegawa
The Indisposable Cotton Diaper Co.
534 Point McKay Cr. N.W.
Calgary, Alberta T3B 5C5
(403) 283-7690

Rediscovery. Ancient Pathways-New Directions A Guidebook to Outdoor Education

Thom Henley, Scouting Canada Wilderness Committee, c/o Suite 103,
1670 West 6th Ave., Vancouver, B.C., V6J 1R6. 1989. 266p. \$16.95.

Wild Birds of Canada.

Tim Fitzharris, Oxford University Press. 1989. 151p. \$34.95.

Rediscovery describes a program that is very new, and yet old. It uses tribal teaching methods of education, in which children learn first by sharing tasks with older people, and then accept the challenge of personal discovery. There is a more recent precedent; in 1901, Canadian nature writer Ernest Thompson Seton created a "tribe" of woodcraft Indians from a group of troubled boys who vandalised his property in Connecticut. Drawing on the wisdom of native cultures, he started a boy's outdoor movement (the Woodcraft League) that took off in the U.S., but was less warmly received in England. There he invited help from Baden-Powell, whose response was to adopt many of Seton's ideas without acknowledgment for his book *Scouting for Boys*, at the roots of the now worldwide scout movement. Unfortunately, "BP" also gave the scouts militaristic trappings which obscured the contribution of Seton, who ended up fighting an unsuccessful rearguard action in the U.S. to preserve the Indian component of his movement, only to see it swallowed up and diluted in the Boy Scouts. (This story is detailed in Betty Keller's excellent biography of Seton, *Black Wolf*).

Ironically, author Thom Henley credits his scouting childhood with developing his interest in Indians and wilderness. He and his colleagues have now reinvented Seton's ideas at a much more profound level, with strong native support, in the Rediscovery program, the subject of this book. Starting in the Queen Charlotte Islands (known here by their native name of Haida Gwaii) the movement has spread to other parts of North America, including Alberta and Hawaii, and is now attracting interest on an international scale. *Rediscovery* has similarities to Outward Bound, Acclimatization and other outdoor/ environmental education movements, as well as to group therapy, but has a unique component in the intimate involvement of participants in native traditions, some taught directly by elders. These are not just trimmings for a routine Outdoor Ed. program, but are regarded as integral to understanding the relationship between a culture and its habitat, and to providing opportunities for the individual's personal growth. For the organizers, these traditions provide a philosophical basis for living and conserving that is missing from much of western society.

The program differs in

different centres, having started from local initiatives and being related to the specific aboriginal traditions and differing ecology of each region. Thus the Haida Gwaii camp catches and eats octopus, and celebrates with a potlatch, while at Rediscovery Four Corners in Colorado participants live in tipis and use the sweatlodge. Although some Rediscovery camps are being set up by native groups specifically to help their own children, a characteristic of the program is that it is open to native and non-native youth, boys and girls, of different ages, living a troubled life or just exploring the world in a new way.

This attractive book is divided into three parts. The first briefly explains the origins of the program, and the last (written mainly by initiators of different projects) discusses how it is expanding to other sites (including the Alberta Wuns kaw Wilderness Camp in the Fort McMurray area). The larger central section presents many of the games, activities and programs that have evolved to make the program a success. Although some of these are similar to familiar outdoor activities, all are distinguished by the cultural/philosophical component, and many have ingenious twists that make

them more entertaining or interesting. A useful key indexes the activities, but there is no general index. The book is enlivened by graphics by native artists, and many color photos of activities in progress. The text quotes to good purpose both native and non-native philosophers as well as participants of the programs.

Perhaps not everyone will feel comfortable with every aspect of the Rediscovery program, and the newspapers tell us there are still Canadians who are prejudiced against aboriginal peoples. Nevertheless, anyone involved in outdoor and environmental education will benefit from this book, and the many who are interested in our environment and the problems of society as a whole may be fascinated to see the hope this program offers, encouraging society to go back to first principles to "start again" in a way that is healthier and more wholesome.

In *Wild Birds of Canada*, Tim Fitzharris presents another glossy book of photographs, this time of Canadian birds. The attractive landscape format, with at least one photo on each spread, commands immediate attention. An introduction mainly discusses watching birds in Canada, and sections on meadow and prairie, marsh and lake, woodland and forest, and seashore and ocean are introduced briefly and then present pictures of appropriate birds with a brief word sketch of each species shown. One page of suggested reading and an index complete the book. The text is often lively prose, sometimes with vignettes as sharply focused as the pictures, but sometimes marred by vagueness and even inaccuracy. A "notched tail and pointed wings," we are

AROUND THE PROVINCE

told, "can only mean the swallow section." This startling statement is promptly qualified by mention of terns and the swallow-tailed kite from Florida, but there is no mention of the swifts. A few pages later, we are informed that only two owls—short-eared and burrowing—can be expected in open country; prairie snowy owl watchers can only greet such a statement with incredulity.

Although picture books should have an accurate text, this book will really be judged on its pictures. As readers have come to expect from Fitzharris, these vary from good to stunning. Highlights include a yawning pelican, a bathing marbled godwit, a ferruginous hawk on the nest, a heron flipping a fish, a vigorously singing long-billed marsh wren, a log full of fluffy goldeneye ducklings and a hooded merganser surfacing with a fish.

These days, there are many books of bird photographs, and this one has some weaknesses. Coverage is patchy—more than half the photos represent only three orders of birds (ducks, passerines and shorebirds), while herons and hawks are the only other groups well represented. There is no treatment of arctic Canada, yet room is made for birds found regularly only in Florida. Many common and significant wild birds of Canada are not included. Only two of the references listed are Canadian (and the author's name of one of those is misspelled). Nevertheless, *Wild Birds of Canada* presents a collection of Fitzharris's finest bird pictures, and beginning and experienced birders alike will find some pleasure in these pages.

David Spalding, is an Edmonton freelance writer and heritage consultant.

Rivers Conference Flows On

A canoeist and a biologist speak on the significance of the Red Deer River in an audio-visual presentation being shown in Red Deer these days.

An amateur paleontologist, a native and a farmer who lost some of his land to the Dickson Dam join them in the 26-minute presentation, entitled *The Way We See It*.

"It took hundreds of hours" to put the report together, said Myrna Pearman, a member and past president of the Red Deer River Naturalists Society, which made the video.

It made its debut at Flowing to the Future, a three-day conference on rivers held at the University of Calgary in May.

The Red Deer group's tireless efforts have paid off. *The Way We See It* has met with favorable response from community groups, "and there's a possibility of it being used in the school system," Pearman said.

Dr. Bert Einsiedel, chairman of the steering committee for the 1991 rivers conference set for the University of Alberta, said: "This is the kind of spin-off effect we had hoped for."

It's hoped the next conference will include more presentations from communities documenting their particular river basin, Einsiedel said.

It's also hoped a wider group of people will undertake the projects, giving them a larger base, he said.

These guidelines have been established for the 1991 conference. Time, location

and other specifics have not been set yet, he said.

The committee is waiting for printing of the 1989 conference abstract before going into high gear on planning the 1991 event, which will include a look at progress on recommendations passed at the earlier conference.

Darlene Dickinson of Alberta Environment said there is "nothing yet" from the province about the possibility of Alberta becoming a full participant in the Canadian Heritage Rivers System, as conference delegates recommended.

The government is also waiting for the final abstract, Dickinson said.

Every province and territory in Canada, except for Alberta and British Columbia, now participates in this program, which is co-ordinated by the federal environment department, and recognizes and protects rivers of national heritage importance.

The Alberta Water Resources Commission, an independent advisory body established by the province, is evaluating and considering the motion, and will make a recommendation to the government.

Other widely endorsed recommendations included:

- Changes in the existing Environmental Impact Assessment (EIA) process used to assess projects with potential impact on rivers, with the EIA coming into play earlier in the planning process, before irrevocable political commitments have been made.

- Those who use water should pay the full cost of providing it, rather than the nominal flat rates now prevalent. This 'user pay' concept would serve as an important water conservation measure, delegates said.

- There should be easy public access to information on issues affecting rivers and environment.

- Economic analyses of water and river projects should be more comprehensive, clearly accounting for the recreational, esthetic and spiritual values of healthy, free-flowing rivers.

Environment Minister Ralph Klein told delegates mistakes have been made in the past, and mistakes are likely to be made in future, but he also gave examples of improved river management. River and water management is political and controversial, he acknowledged. He endorsed the conference and offered his support, if he is still minister, for the 1991 conference.

Conference co-chairman Kevin Van Tighem argues that rivers should be managed separately from water. Everything society does within a watershed is reflected in the health of a river, and so rivers should be managed as barometers of sustainable development, rather than as plumbing systems, he says.

Van Tighem, now on a two-year work assignment in Field, B.C., and a member of the Federation of Alberta Naturalists, challenged delegates to decide, individually, what good news they would like to announce at the next conference, and then do everything possible to make that news happen.

He said recently that Riverfest II, a B.C. rivers conference held in the fall, drew only one-third the delegates of Flowing to the Future and no media coverage.

"Just in general, I think it's a credit to Alberta that there's this level of interest," he said.

Cathie Bartlett

Conservation Strategy Update

To most of us, the word strategy still looks and sounds like a bit of jargon. Until now it hasn't been used in everyday conversation.

But maybe that's about to change. Lately we've been hearing about conservation strategies, campaign plans to save and conserve the environment, from environmentalists, and even from some politicians. And now, hot off the press, comes our own draft *Alberta Conservation Strategy-Framework for Action*. Our vocabularies may never be quite the same.

Why is this so?

Despite the hint of jargon in its title, this is one of the more intriguing environmental documents we've seen published in Alberta this decade. And potentially, it's one of the most important. That's because it describes a workable approach we can use here in Alberta to set, and to reach, our environmental goals, through "consensus building." That concept adds yet another tad of jargon to the document, but this is tame stuff, easy to understand and worth some careful consideration.

Building consensus has been at the heart of the Alberta Conservation Strategy Project since it began more than four years ago. The idea for creating the draft strategy came out of the public advisory committees to the Environment Council of Alberta. The public advisory committee's membership is very diverse, with representation from over a hundred different organizations and institutions from across the entire province. Virtually all political stripes and interest

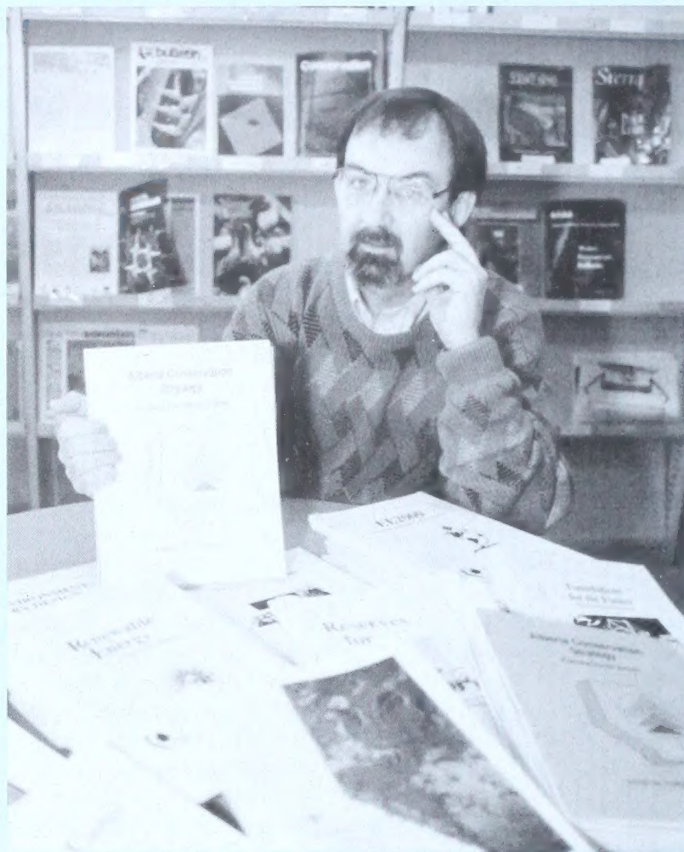
groups are heard from; and yet these committee members have been able to find a consensus that has made the ACS project possible, and very successful. The draft strategy is undoubtedly the highlight of their work, and

the same time, many Albertans feel there is a need for more development. Clearly, there is a need both for environmental redress and protection, and for responsible development. In fact, the most likely way we can ever hope

ment" has a well-defined meaning: "management of resources in such a way that we can fulfil our economic, social, cultural and esthetic needs while maintaining the essential ecological processes, biological diversity and naturally occurring life support systems within Alberta." Another way of putting it is: "Learn to live off the interest, not the capital," or "Treat Alberta as if we plan to stay."

The draft strategy calls on Albertans to strive to shift mental gears so that all future development in the province is carried out with just one eye on the profits, while the other is clearly focused on the environment. As the draft strategy puts it, "Good environmental decisions can be good economic decisions. Agencies and enterprises that are not 'leading the parade' are likely to become part of the pavement."

How is this change in "strategic thinking" about the environment and development to be achieved? The draft strategy proposes a strategic framework within which we Albertans, in an organized and systematic way, can share in deciding how best to manage and conserve our part of the world's environment for the years to come. An integral part of this framework is a set of 10 principles against which we can apply our proposals for action, to ensure these actions will indeed move us in the direction of sustainability. We need to achieve a new way of thinking which, if applied flexibly but continuously, will lead toward environmental and economic sustainability for Alberta. This approach is underscored by the idea that the quality of decisions can be improved; that, as the draft suggests, "by changing the way decisions are made, you change the decisions that are made." This draft strategy calls not for enchainning corporations, nor



The Environment Council of Alberta's Ken Nelson, with some of the Alberta Conservation Strategy publications.

the fruit of consensus building among themselves.

Completion of the draft strategy (expected to be released early in 1990) comes at a time when, as the recent Angus Reid opinion poll has shown, public demand for constructive action on the environment has never been greater. More and more, people are realizing that worldwide ecological collapse is a risk of the foreseeable future, not just a concern for generations to come.

Albertans are generally well aware of the extent to which the environment is under attack. And many people feel the need for action in a number of areas. But at

to pay the cost of environmental protection is through development. Thus, some may be surprised by the emphasis the draft strategy gives to the need for "development" as a means to reach environmental stability. But what kind of development should this be?

The term used for it is "sustainable development," a phrase put forward in the *World Conservation Strategy* published in 1980, and which gained general acceptance and widespread usage with the 1987 report of the UN World Commission on Environment and Economy (the Brundtland report called *Our Common Future*). In our draft strategy the term "sustainable develop-

for the overthrow of institutions. Rather, it seeks to raise gates and open bridges, to empower every concerned Albertan as we set out to help our environment. We all have roles to play in the boardroom, in the classroom, in the legislature, in city hall or county chambers, and in our own homes when the environmental dramas of the '90s begin unfolding. What's difficult to accept is that decisions made soon—during the next decade or so—will decide forever the fate of our remaining wilderness, what will be available as natural resources for future generations and the quality of life we bequeath them.

For far too long our response has been "react and cure" whenever environmental problems arise, and impacts on the environment have been measured as afterthoughts. We've become trapped in the belief that science and technology can fix whatever goes wrong, so we don't give enough thought to preventing things from going wrong in the first place. Paying for a double-bottomed Exxon Valdez when it was first built would have been much cheaper than trying to clean up Prince William Sound.

What is most fitting about the release of this conservation strategy document is that it is called a "draft." Alberta's strategy, like all the others now being put together right round the world, is a document that will never be finished because it is more a process than a plan. Those who helped put it together hope their efforts will in turn help Albertans to set goals and achieve desired actions. But the worry remains; is it too late, now, to realize that the old approach can't work? Which is it to be: sustaining development, or making development sustainable?

Perhaps the buzzwords hide the true question: the entire world faces grave

changes—the future quality of life is in the balance—so how well can we anticipate, and perhaps learn to prevent, environmental degradation? Or, must we learn to adapt? To what? How bad can things get? Who cares, so long as we avoid the worst? We need a framework for achieving a sustainable future; we in Alberta must achieve this for ourselves here in this place, while we trust in and support the efforts of others everywhere else to achieve these same ends worldwide. The needed framework is something like the conservation strategy, a framework within which we can decide, and change, the way we think about development, ourselves and our place on Planet Earth.

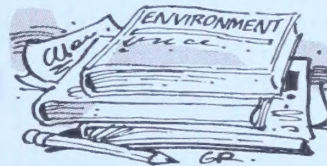
There is more good news. The Alberta Conservation Strategy publishing program is nearing its end. More than half of the discussion papers are in print, nearly all are now complete and the editing process is going ahead rapidly. Those who are on the ACS mailing list can expect to see announcements for these last documents coming out this winter. Along with the publishing of the draft strategy and its accompanying documents (The Strategic Framework in Brief and Approaches to Implementation), the wrapping up of this ACS publishing program paves the way for the involvement of the public. Watch for future announcements. They should not be long in coming.

For more information about the Conservation Strategy of Alberta, contact the ECA through the RITE system or by calling Zenith 06075 or, in Edmonton, 427-5792. The March 1988 issue of *Environment Views* covered the Alberta Conservation Strategy.

This report was prepared for Environment Views by Ken Nelson, communications officer for the Environment Council of Alberta.

Environment Education Materials

Alberta Environment's Education Branch is just one of several sources of environmental education material available from the Government of Alberta. The branch provides educational materials that have been developed by the department to teachers, students, parents, youth leaders and special interest and community groups. Often these materials are delivered to educators through workshops presented by branch staff or other trained department staff. The branch is also responsible for



the department's Environment Week program which includes adopt-a-classroom where more than 300 Environment staff across Alberta made presentations to more than 700 classrooms in 1989 on a variety of environmental topics.

Topic areas covered by branch programs include water (The Water Literacy Program), wastes (Solid Waste Environmental Education Program), pesticides (Pesticide Education Program – in development), recycling (Recycling Education Program – in development), land conservation (Land Education Program – in development) and other topics.

An environmental education organization that works co-operatively with Alberta Environment is the Friends of Environmental Education Society of Alberta (FEESA).

This non-profit society was formed in 1985 to promote, co-ordinate and develop environmental education programs in the province. With a board representing government, education, industry and environmental interests, FEESA has been able to support the development of several programs. The Northern Alberta Environmental Education Program and the Aquatic Invertebrate Monitoring Program are now complete. Three other programs are in development. They are the Alberta Conservation Strategy Education Program (a video and print resource), the Adopt-A-Stream Program (a riparian habitat conservation program) and the Alberta Water Education Institute.

FEESA welcomes new members and publishes the newsletter, *Environment Update* for its membership. FEESA can be contacted by phoning 426-4191 or writing 641-21, 10405 Jasper Avenue, Edmonton T5J 3S2.

Are you a new reader?

Environment Views

covers topics of environmental concern to Albertans, providing facts and a forum for a range of views. If you're interested in Alberta's environment, send in the card and become a subscriber. It's free. If the card is missing, phone or write to us at the address inside the front cover.

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ENVIRONMENT UPDATE

Sustainable Use of Forests

The theme of the 1990 annual meeting of the Canadian Society of Environmental Biologists is "Sustainable use of Canada's forests: Are we on the right track?" The meeting is to be held this year in Alberta, on April 5 and 6 at Kananaskis Lodge. Regional perspectives on the timber resource and its management and other uses of the forest (wildlife, recreation, mineral extraction, etc.) will be featured through two concurrent sessions. One workshop session is also planned on sustainable forestry. For more information, contact Kim Sanderson in Edmonton at 427-5792 or 439-4694; or Sheila Leggett in Calgary at 275-8937 or 247-2036. Or write to the CSEB, Alberta Chapter, Box 12, Substation 11, Edmonton T6G 2E0.

Alberta Environmental Directory

The latest edition of the Alberta Environmental Directory is now out. A project of the Alberta Environmental Network and published by the Pembina Institute, it lists more than 220 organizations and agencies

involved in environmental issues, services and activities in Alberta. The new edition also features an eight-page State of the Environment overview.

Each listing provides contact information, details on the nature and structure of the organization, its purposes and aims and an overview of the major environmental activities and services provided.

The directory is \$12 (\$8 each for five or more copies). Send payment with order to: The Pembina Institute, Box 7558, Drayton Valley, T0E 0M0. Phone 542-6272.

Good News, Bad News About Recycling

The County of Strathcona, including the hamlets of Sherwood Park, Ardrossan and Josephsberg have launched an ambitious recycling program with collection stations for glass, newspapers and metal cans at seven locations throughout the county. The Ardrossan Boy Scout troop and other community groups are involved.

The bad news is that the

communities of Hanna and Beaverlodge have suspended their recycling programs, after volunteers in both communities blamed poor returns for the hours of work involved.

Pitch-In Canada is calling for more provincial government involvement in local recycling programs. At the fall meeting of the Recycling Council of Alberta, Allard Van Veen, the president of Pitch-In Canada, said smaller communities located away from main market centres are at a disadvantage in transporting recyclables to market. A network of strategically located transfer stations as well as a program of guaranteed minimum prices for recyclables would encourage smaller communities to participate, he said.



If you have a short news item of province-wide interest you'd like to contribute to Environment Update, please send it to the editor at the address on the Contents page. The editor reserves the right to select and edit items.

Banff Centre News

Sustainable Development

The Banff Centre School of Management is presenting a one-week course on Sustainable Development, February 18-23. The course is designed to help managers "understand and deal with the balance between economic and environmental imperatives." The focus will be on the dimensions of sustainable development that can be learned from real-life case study presentations.

Dispute Settlement

Improving techniques for settling environmental disputes is the focus of the Banff Centre for Management seminar Advanced Environmental Dispute Settlement, January 22-26. This seminar reflects the growing use in Canada of negotiation, mediation and related settlement processes to resolve environmental disputes.

For more information about Banff Centre courses contact Sandra Harris, program coordinator, Resource Management, The Banff Centre for Management, Box 1020, Banff T0L 0C0, 762-6133.